

Code: DA-25137

ICGH 2025-001

Category: 1.1 Epidemiology

Mutational signatures in colorectal cancer from 11 countries reveal new insights in early-onset colorectal cancer

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Introduction: Colorectal cancers (CRC) have an important impact on both incidence and mortality worldwide, with varying rates in different parts of the world. Despite an overall decrease in incidence in the past years, an alarming increase in early onset colorectal cancer (CRC in patients under 50 years of age) rates has been observed. As part of the Cancer Research UK Grand Challenge Mutographs project, we aim to better understand the underlying

mutagenic causes contributing to the differences in CRC incidence rates through mutational signatures.

Materials and Methods: We collected epidemiological data and performed whole genome sequencing and mutational signature analysis on 981 CRC tumor samples from 11 countries with varying incidence rates, including intermediate incidence regions (Iran, Colombia, Thailand, and Brazil) and higher incidence regions (Argentina, Russia, Canada, Poland, Czechia, Serbia, and Japan).

Results: The average mutational profiles were similar across the countries. Mutational signatures associated with DNA repair deficiencies, including POLE and POLD1 associated signatures (SBS10a/b/c/d and SBS28), MUTYH (SBS36), NTHL1 (SBS30), homologous recombination deficiency (SBS3), and a plethora of microsatellite instability (MSI) signatures, were found in 177 cancers (18% of all samples) and at comparable levels across all countries. Multiple signatures with known etiologies were found in 802 DNA repair proficient colorectal cancers including clock-like (SBS1 and SBS5), reactive oxygen species (SBS18), APOBEC (SBS2 and SBS13), and the microbiome-product colibactin (SBS88) signatures. The colibactin signature SBS88 was observed in 14% of samples overall, being more prevalent in distal and rectum tumors. SBS88 was significantly enriched in younger patients (33% <40y, 23% 40-49y, 20% 50-59y, 10% 60-69y, 10% ≥70y; p-value = 0.0001). Tumors from early onset patients also showed higher prevalence of another mutational signature with unknown etiology (19% <40y, 16% 40-49y, 13% 50-59y, 6% 60-69y, 7% ≥70y, p-value = 0.005).

Conclusion: These results indicate a potential association between SBS88 with early onset CRC, suggesting that the recent increase in incidence may be at least partially explained by the genotoxic compound colibactin, and associated bacteria.

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Category: 1.1 Epidemiology

Global socioeconomic inequality in incidence, mortality, and disability from hepato-pancreato-biliary cancers in 2021: A Stark Divide between Rich and Poor Nations

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Introduction: Hepato-pancreato-biliary cancers (HPBCs) are highly aggressive and associated with poor outcomes, posing a major global health burden. This study explored how the Human Development Index (HDI) influences their incidence, mortality, and DALY rates worldwide.

Materials and Methods: We sourced 2021 cancer data by country from the Global Burden of Disease database. To assess socioeconomic disparities in mortality, incidence, and DALYs for gallbladder/biliary tract (GBTC), pancreatic (PC), and liver (LC) cancers, we employed relative concentration indices (RCI) and concentration curves. Additionally, we categorized countries according to their socioeconomic status using the HDI.

Results: Countries with higher HDI rankings experienced disproportionately higher rates of GBTC incidence (RCI: 0.182), mortality (RCI: 0.271), and DALYs (RCI: 0.157) ASRs. Conversely, LC mortality (RCI: -0.133) and DALYs (RCI: -0.310) ASRs due to hepatitis B were concentrated in low HDI countries, while PC showed a stronger concentration in high HDI nations (RCI for ASRs incidence, mortality, and DALY: 0.254, 0.241, and 0.220, respectively). Hepatoblastoma (RCI for ASRs incidence, mortality, and DALYs: -0.041, -0.257, and -0.400) and liver cancer due to metabolic dysfunction-associated steatohepatitis (MASH) (RCI for ASRs Incidence, mortality, and DALY: -0.184, -0.226, and -0.247) were also more prevalent in lower HDI countries.

Conclusion: Our findings reveal socioeconomic disparities in HPBCs-related mortality and disease burden. To address these inequalities, targeted healthcare policies and interventions should prioritize high-burden regions.

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ICGH 2025-003

Category: 1.1 Epidemiology

Gut_Kidney Heart: A Novel Trilogy

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The microbiota represents a key factor in determining health

and disease. Its role in inflammation and immunological disorders is well known, but it is also involved in several complex conditions, ranging from neurological to psychiatric, from gastrointestinal to cardiovascular diseases. It has recently been hypothesized that the gut microbiota may act as an intermediary in the close interaction between kidneys and the cardiovascular system, leading to the conceptualization of the “gut–kidney–heart” axis. In this narrative review, we will discuss the impact of the gut microbiota on each system while also reviewing the available data regarding the axis itself. We will also describe the role of gut metabolites in this complex interplay, as well as potential therapeutical perspectives.

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ICGH 2025-004

Category: 1.1 Epidemiology

Epidemiology of Hepatitis C Genotypes in Patients with Chronic Hepatitis C in Western Iran, Lorestan Province 2007-2017

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Introduction: Hepatitis C is a type of infection that primarily affects the liver. The hepatitis C virus (HCV) is the cause of this disease. Hepatitis C often has no symptoms, but chronic infection can damage the liver and lead to cirrhosis after several years. In some cases, individuals with cirrhosis of the liver also have liver failure, liver cancer, or varices in the esophagus and stomach, the latter of which can lead to life-threatening bleeding. In this study, we intend to investigate the prevalence of different genotypes based on variables such as age, gender, history of surgery, history of injection drug use, and other risk factors.

Materials and Methods: The present study was a cross-sectional study conducted on all patients with HCV attending a specialized gastroenterology clinic in Khorramabad city during the years 2007-2017. In this study, patients with positive HCV Ab by ELISA and confirmed by PCR, as well as their genotype determined by PCR, were included. The medical records of these patients were reviewed, and information related to age, gender, history of surgery, potential disease risk factors, and virus genotype were extracted and analysed

Results: In the present study, 75 patients with hepatitis C were investigated for the prevalence of different virus genotypes. The mean age of the patients was 46.4 ± 12.6 years. Among the patients, 63 (84%) were male and 12 (16%) were female. None of the patients had a history of thalassemia, hemophilia, or undergoing hemodialysis. 30 patients (40%) had genotype 1a, 4 patients (5.3%) had genotype 1b, 38 patients (50.7%) had genotype 3a, and 3 patients (4%) had non-typable genotypes. 43 patients (53.7%) had a history of injection drug use, and 13 patients (17.3%) had a history of blood and blood product injection. 8% of the patients had a positive family history of hepatitis C, and 37.3% of the patients had a history of tattooing. 18.7% of the patients had a history of previous surgery. There was a statistically significant association between genotype 3a and a history of injection drug use ($P=0.03$) and a history of tattooing ($P=0.048$).

Conclusion: According to the results of the present study, the majority of individuals were male, and the most prevalent genotype was 3a, which was consistent with most studies within the country. Following that, the prevalence was in the order of 1a, 1b, and non-typable genotypes. The most common risk factor was injection drug use, followed by tattooing. Although there were also histories of surgery, positive family history of hepatitis C, and blood transfusion. Considering the high prevalence of genotype 3a in Lorestan province, the cost and duration of hepatitis C treatment, the side effects of drugs, and the fact that the treatment duration for genotypes 2 and 3 is at least six months shorter than other genotypes in previous interferon-based treatments, and they have a better treatment response and longer sustained virological response (SVR), and in new treatments, genotype 3a has an unfavorable response in some studies.

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ICGH 2025-005

Category: اپیدمیولوژی ۱.۱

Impact of too warm weather on the rate of hospital admission due to IBD exacerbation: A multi centric multinational Study

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Introduction: Inflammatory bowel disease (IBD) is a chronic inflammatory disease of the gastrointestinal tract with rising worldwide prevalence. Studies have reported a statistically significant association between acute exacerbations of IBD and seasonal variations. Considering global warming and hazards of climate change, in this study, we intend to evaluate the impact of extreme weather condition (too warm or too cold weathers) of the rate of

hospital admission due to IBD exacerbation and flare.

Materials and Methods: to evaluate the rate of hospital admission due to IBD flare during periods of extreme weather condition (temperatures $>40^{\circ}\text{C}$ or $<10^{\circ}\text{C}$) in comparison with rate of admission during more temperate periods (average temperatures between 20 to 30°C).

Results: The rate of hospital admission due to IBD flare and rate of GI wards bed occupation recorded from 28 referral centers in 12 countries. Overall, the most rate of seasonal hospital admission due to IBD flare and occupation of GI wards beds recorded during summer (30.8%) in comparison with average 26.5% during spring and autumn and the least rate recorded during winter (18.6%). Whenever the temperature was too warm ($>40^{\circ}\text{C}$), this rate of was 39.65% in comparison with 19.4% during temperate days of the year (20 to 30°C) and 12.9% during coldest days ($<10^{\circ}\text{C}$) ($P = 0.0023$ & 0.0044 respectively). While the rate of submission during cold days was the least (12.9%) but in comparison with temperate days, it was not significant ($P = 0.1175$).

Conclusion: the most rate of hospital admission due to IBD flare happens during warmest days of the yeas and temperatures more than 40°C . With hazards of global warming and potential raising of average temperature, we should be aware about challenging with more IBD flares and more hospital admissions in the future.

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Category: اپیدمیولوژی ۱.۱

Dengue Virus: The Viral Agent and its Shedding, Strategies for Disease Control and Reducing Its Health Impact

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Dengue fever, a major infectious disease caused by arboviruses, has become a significant public health concern, particularly in tropical and subtropical regions. The disease is caused by the Dengue virus (DENV),

which comprises four primary serotypes (DENV1-4) and a recently identified fifth serotype (DENV-5). The rapid spread of dengue is attributed to various factors including rapid population growth, unplanned urbanization, climate change, and increased travel, which have led to the virus's dissemination to new areas and among vulnerable human populations. This review article provides a comprehensive examination of the current status of DENV, including its genomic structure, pathogenesis mechanisms, life cycle, and methods for disease detection and control. The review emphasizes the importance of epidemiological monitoring in at-risk areas, particularly in countries like Iran where dengue is not yet widely prevalent. The analysis underscores the need for advancements in diagnostic technologies, the development of effective vaccines, and improved strategies for mosquito vector control. Furthermore, international collaboration and the use of novel technologies are essential for achieving the goal of dengue eradication by 2030. This article highlights the necessity of coordinated and comprehensive efforts to address this disease and mitigate its impact on public health and the global economy.

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Category: اپیدمیولوژی ۱.۱

Prevalence of Hepatitis C Virus in the General Population of Iran: An Updated Systematic Review and Meta-Analysis

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Introduction: Hepatitis C virus (HCV) remains a major global health challenge, with nearly 50 million people chronically infected and over 240,000 annual deaths, primarily from cirrhosis and hepatocellular carcinoma. Despite curative direct-acting antivirals (DAAs), elimination efforts lag: by 2024 only 36% of patients

worldwide had been diagnosed and 20% treated. Iran has endorsed WHO's 2030 elimination targets, but data from the general population remain sparse, with most studies focusing on high-risk groups. A crucial step toward elimination is establishing accurate prevalence estimates in the general population.

Materials and Methods: We conducted a systematic review and meta-analysis following PRISMA 2020. PubMed, Scopus, Web of Science, and Persian-language databases were searched through January 2025. Eligible studies were population-based, reported HCV prevalence in Iranian nationals, and applied validated assays (ELISA, RIBA, and/or PCR). Facility-based and high-risk cohorts (e.g., people who inject drugs, prisoners, blood donors) were excluded. Data were extracted in duplicate on study design, location, sample size, demographics, and diagnostic methods. Pooled seroprevalence (anti-HCV) and viremia (HCV-RNA) were estimated using DerSimonian-Laird random-effects models with subgroup analyses by sex and study period.

Results: Nineteen cross-sectional studies (21 province-level reports; N=115,087) were included. Overall anti-HCV seroprevalence was 0.8% (95% CI 0.6–1.0%), ranging from 0.1% (East Azerbaijan) to 2.9% (Golestan). HCV-RNA prevalence was 0.2% (95% CI 0.1–0.3%). Both indicators declined over time: from 2.0% seroprevalence (2006–2010) to 0.2% (2016–2021), and from 0.9% RNA prevalence to 0.1% in the same periods. Sex-specific analysis showed no difference in seroprevalence (0.6% in both sexes), but RNA prevalence was significantly higher in men (0.21%) than women (0.04%, $p < 0.03$). Approximately 40% of antibody-positive individuals were RNA-positive, consistent with active infection.

Conclusion: HCV prevalence in Iran's general population is low (anti-HCV 0.8%; RNA 0.2%) and has declined in recent years. However, substantial heterogeneity, uneven provincial coverage, and limited RNA reporting restrict precision. Expanded, standardized, province-representative surveys are needed to close evidence gaps, refine elimination strategies, and ensure equitable progress toward the 2030 WHO targets.

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ICGH 2025-008

Category: اپیدمیولوژی ۱.۱

De Novo Inflammatory Bowel Disease after Liver

Transplantation: Eleven Years' Experience in Shiraz, Iran

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Introduction: Colon inflammation may occur after solid and liquid organ transplantations at a rate higher than in the general population.

Objectives: This study aimed to investigate the incidence of de novo inflammatory bowel disease (IBD) and assess some risk factors after Orthotopic Liver Transplantation (OLT) in liver transplant patients in Shiraz, Iran.

Materials and Methods: The sample study comprised patients ($n = 1702$) who had received liver transplants between 2001 and 2012 at the Shiraz liver transplant center. The data were obtained from patient records, which included information on their medical history, colonoscopy reports, family history of IBD, and other risk factors. The study evaluated the status of inflammatory bowel disease (IBD) among patients who had undergone liver transplantations due to Autoimmune Hepatitis (AIH) group, Primary Sclerosing Cholangitis (PSC), and other liver transplant patients. Additionally, case groups were formed, comprising AIH patients ($n_1 = 10$) and other patients with IBD ($n_2 = 10$), and were compared with transplant patients without IBD as the control group ($n_1 = 21$, $n_2 = 21$).

Results: Out of the total 1702 patients, 254 (14.92%) had AIH, 211 (12.40%) had PSC, and 1237 (72.68%) had other outcomes. The mean of leukocyte counts (P -value = 0.73), types of immunosuppressant medications, and serum levels of cyclosporine (P -value = 0.77) and tacrolimus (P -value = 0.27) did not show any significant differences between the case and control groups. However, it was observed that IBD developed earlier in patients with AIH compared to other patients (20.1 ± 2.23 vs 53.9 ± 4.42 months).

Conclusion: The incidence of IBD after liver transplantation was higher compared to the general population, and it occurred earlier in patients who underwent transplantation for AIH and other groups

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Category: سلول / بیولوژی مولکولی / پاتولوژی ۱.۲

Evaluation of the clinical significance of BTG1 gene expression and pepsinogen in serum and cancerous tissue and gastric atrophy: Archives of Physiology and Biochemistry: Vol 131, No 3

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Introduction: This study aimed to assess the expression changes of BTG1, PGI, and PGII in tissues and serum of patients with gastric cancer, atrophic gastritis, and healthy individuals.

Materials and Methods: QRT-PCR was used to measure BTG1, PGI, and PGII expression in 30 cancers, 30 atrophic gastritis, and 30 healthy tissue samples. Serum levels of PGI and PGII were measured using ELISA. Statistical tests included the Mann-Whitney U and independent T-test. Covariates like tumour stage and H. pylori status were considered.

Results: BTG1 expression was significantly lower in cancer and gastritis tissues. Serum PGI and PGII levels were significantly reduced in cancer patients ($P \leq 0.001$).

Conclusion: The PGI/PGII ratio in serum emerged as a strong non-invasive biomarker for distinguishing cancer from healthy individuals. While BTG1 provides insights into gastric carcinogenesis, its clinical utility is limited due to the need for tissue samples. The serum-based PGI/PGII ratio shows greater promise as a non-invasive screening tool for GC.

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ICGH 2025-010

Category: 1.2 Management strategies

Acute Cholecystitis Management in Older Patients with Comorbidities

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These results demonstrate that cholecystectomy during initial hospitalization should be a strong consideration for nearly all patients with acute cholecystitis, regardless of age or comorbid conditions. These results challenge the notion that some patients are “too sick” to undergo surgical treatment for acute cholecystitis — although we will see rare exceptions to this general conclusion.

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ICGH 2025-011

Category: 1.2 Management strategies

Optimizing Colonoscopy Preparation

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Many patients are reluctant to undergo screening colonoscopies because of a fear of bowel preparation, which often is perceived as more unpleasant than the procedure itself. Demystifying the preparation process based on available evidence allows referring clinicians to communicate appropriate expectations. Most of the above recommendations are based on strong evidence. For most patients, a 1-day low-residue diet is appropriate. For selected patients at high risk for inadequate preparation (e.g., prior inadequate bowel preparation, chronic constipation, motility disorders), multiple days of a clear liquid diet might be appropriate. The guideline authors don't recommend one preparation product over another. Use 2 L rather than 4 L regimens for most patients. Use the patient's history to guide preparation selection, particularly patients at risk for volume overload and those with prior inadequate preparation. Recommend split-dose preparations (evening and morning) unless the procedure is scheduled late in the day. Add simethicone to the preparation. Complete the preparation 2 hours before the procedure. The document includes additional recommendations for colonoscopists on evaluation of preparation quality, methods to improve visualization, and what to do when preparation is inadequate.

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ICGH 2025-012

Category: 1.3 Evidence-based clinical practice

How Accurate Is BMI as a Measure of Obesity?

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These results run counter to the concern that BMI might label patients inappropriately with obesity because of their nonfat mass. Although some special populations, such as athletes, might deserve special assessments, the effort and possible expense of measuring waist circumference or performing a DEXA scan appears to be unnecessary in routine practice.

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ICGH 2025-013

زیست شناسی سلول های آب / آسب شناسی و مواد مغذی / ۱.۴
حمل و نقل / آب و الکترولیت

The Relationship between levels of MMP-2, MMP-9 and ADAMDEC1 in serum and tissue in patients with colorectal cancer

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Introduction: Colorectal cancer (CRC) is the most common malignancy of the gastrointestinal system in the world. By identifying specific gene expression patterns that indicate CRC in the early stages, it is possible to potentially diagnose the disease in the early stages and start treatment quickly. Matrix metalloproteinases (MMPs) play a crucial role in the degradation of the extracellular matrix and tissue remodeling. Among them, MMP-2 and MMP-9 have been found to be upregulated in various cancers, including CRC, and are associated with tumor invasion, metastasis, and angiogenesis. ADAMDEC1, on the other hand, is a relatively newly discovered gene that has been shown to be involved in immune response and inflammation. This study investigated the serum MMP-2, and MMP-9 levels and tissue expressions of MMP-2, MMP-9, and ADAMDEC1 in CRC patients and explored their possible associations with pathological and clinical factors.

Materials and Methods: 100 patients with CRC and 100 control subjects were involved in the study. Tissue and blood samples were collected. Serum levels of MMP-2 and MMP-9 were analyzed using the ELISA method. The quantitative Real-Time PCR (qRT-PCR) technique was used to assess the expression levels of the MMP-2, MMP-9, and ADAMDEC1 in CRC tissue samples in comparison with the adjacent control tissue.

Results: Our results revealed that the expression levels of MMP-2, MMP-9, and ADAMDEC1 were significantly up-regulated in CRC tissues compared to the adjacent control group. Analysis of patients' clinicopathological features showed a statistically significant difference in the expression levels of MMP-2, MMP-9, and ADAMDEC1 between colorectal cancer patients with and without lymphovascular invasion (LVI) ($P < 0.0001$). ROC curve results have shown that these genes are good candidate diagnostic biomarkers in CRCs.

Conclusion: These results indicated that MMP-2, MMP-9, and ADAMDEC1 levels may serve as potential diagnostic biomarkers for CRC.

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پاتوزنز / آسیب شناسی پایه / ۱.۵

Prevalence of IgA Anti-tissue Transglutaminase Antibody in a Cohort of Iranians Patients with Inflammatory Bowel Disease

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Introduction: Some studies have reported the coexistence of inflammatory bowel disease (IBD) and celiac disease (CD). However, the prevalence of anti-tissue transglutaminase antibodies (IgA and IgG) and their screening value in patients with IBD is not yet clear. This study aimed to assess the prevalence of IgA anti-tTG and its potential correlation with disease status in patients with IBD.

Materials and Methods: This cross-sectional study was conducted on 110 patients with confirmed IBD diagnosis at Ghaem Hospital, Mashhad, Iran. For each patient, all demographic and clinical data including age, extra intestinal manifestations, underlying diseases, types of diseases, and surgical history were collected. IgA anti-tissue transglutaminase titers were assessed by enzyme-linked immunosorbent assay.

Results: None of the patients with IBD were positive for IgA anti-tTG antibodies, with a mean titer of 3.31 ± 1.3 AU/mL. Also, the mean titers were not associated with age, gender and various disease clinical features including the disease history, underlying disease, diagnosis type, extraintestinal manifestations, and surgery history.

Conclusion: No significant prevalence pattern of IgA anti-tTG antibody was observed in patients with IBD. Accordingly, serological screening for CeD is not recommended in IBD patients, unless in a relevant clinical CeD suspicion.

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ICGH 2025-015

Category: پایه / پاتوژنز / آسیب شناسی ۱.۵

Unmasking the Link Between Amoxicillin Use and Inflammatory Bowel DiseaseSaba Ehsani¹, Ali Niksirat^{1,*}, Fatemeh Abbasi²¹ Department of Medicine, Tehran University² Department of Medicine, Tonekabon University

Inflammatory bowel disease (IBD), encompassing Crohn's disease and ulcerative colitis, is a chronic, relapsing inflammatory disorder of the gastrointestinal tract with a multifactorial etiology. Among environmental risk factors, antibiotic exposure has attracted growing attention due to its potential to alter the gut microbiota, thereby modulating immune responses and triggering intestinal inflammation. Amoxicillin, one of the most widely prescribed β -lactam antibiotics, is frequently used for respiratory, urinary, and dental infections, yet its possible contribution to IBD risk remains underexplored.

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ICGH 2025-016

Category: پایه / پاتوژنز / آسیب شناسی ۱.۵

The Role of Dietary Habits in the Pathogenesis and Development of Inflammatory Bowel Disease: A Narrative ReviewMitra Ahadi¹, Mina Akbari Rad^{2,*}¹ Department of Gastroenterology and Hepatology, Mashhad University of Medical Science, Mashhad, Iran² Department of Internal Medicine, Faculty of Medicine, Mashhad University of Medical Science, Mashhad, Iran

Inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC), is a chronic immune-mediated disease. The incidence of IBD is influenced by various genetic and environmental factors, with dietary habits gaining significant scientific interest. While the role of diet in the pathogenesis and development of IBD is still debated, recent studies have demonstrated its potential impact. However, conflicting findings exist regarding the efficacy of dietary interventions in the treatment and control of IBD. This review aimed to summarize the current understanding of the relationship between diet and IBD, highlighting the different perspectives and reasonings observed in recent studies. Overall, it has been shown that dietary habits play a role in the incidence of

IBD, and adopting a controlled dietary approach may help manage the disease. Consequently, diet can be considered a

predictive and prognostic factor in IBD

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Code: DA-25034

ICGH 2025-017

Category: پایه / آسیب شناسی / پاتوژنز ۱.۵

Serum Levels of Coagulation Factors in Patients with Inflammatory Bowel DiseaseAli Moradi¹, Hassan Mehrad-Majd¹,Hassan Vossoughinia², Mitra Ahadi^{2,*}, Bahram Memar³¹ Clinical Research Development Unit, Ghaem hospital, Mashhad University of Medical Sciences, IRAN² Gastroenterology and Hepatology Department, Mashhad University of Medical Sciences, IRAN³ Surgical Oncology Research Center, Mashhad University of Medical Sciences, IRAN

Introduction: Inflammatory bowel disease (IBD) is described by increased coagulability and prothrombotic state and can be associated with coagulopathies. Although many causes of increased coagulability and thrombosis have been reported in IBD, there is no definitive evidence for most of them. This study aimed to define the changes in coagulation factors in patients with IBD compared to healthy controls.

Materials and Methods: In this case-control study, serum levels of protein C, protein S, antithrombin III, fibrinogen, and homocysteine were evaluated in 59 patients with a confirmed IBD, (23 with Crohn's disease and 36 with ulcerative colitis) (case group) and 29 healthy individuals (control group) matched for age and gender.

Results: Significant differences were found in all five studied markers between IBD and non-IBD patients (protein C (P=0.033), protein S (P=0.006), antithrombin III (P<0.001), fibrinogen (P=0.016) and homocysteine (P<0.001)), however, multivariate analysis showed a significant role for only Homocysteine (OR=0.957, 95%CI: 0.93-0.986, P=0.003) in predicting IBD.

Conclusion: Regarding the results, it can be alleged that despite the significant difference in the level of coagulation factors between the IBD and non-IBD patients, only the serum level of Homocysteine has a predictive role for IBD.

Send Date: 2025/08/16

Code: DA-25042

ICGH 2025-018

Category: بیماریهای بدخیم - پاتوژنز ۱.۶

Prognostic value of pretreatment hemoglobin-to-

platelet ratio in patients with locally advanced rectal cancerMohammadhossin Somi¹, Seyed Kazem Mirinezhad^{1,*}¹ Liver and Gastrointestinal Disease Research Center, Tabriz University of Medical Sciences**Introduction:** Identifying simple, cost-effective prognostic biomarkers is crucial for optimizing management in locally advanced rectal cancer (LARC). This study investigates the hemoglobin-to-platelet ratio (HPR) as a potential predictor of overall survival.**Materials and Methods:** We conducted a retrospective cohort study on 262 patients with LARC treated between February 2007 and March 2017 at Tabriz University of Medical Sciences-affiliated centers. HPR was calculated before any therapy using the formula: $HPR = \text{hemoglobin (g/dL)} \div \text{platelet count} (\times 10^3/\mu\text{L})$. Survival outcomes were analyzed using Kaplan-Meier curves and the Breslow test.**Results:** The study population included 161 men and 101 women, with a median age of 59 years. HPR and platelet count showed no correlation with tumor stage, T category, or nodal involvement. Notably, patients with low HPR (≤ 0.05) had a median overall survival of 57 months, whereas those with high HPR (> 0.05) had a median survival of 43 months ($P = 0.02$), indicating a significant association between pretreatment HPR and survival outcomes.**Conclusion:** Pretreatment HPR appears to be a simple, accessible, and independent prognostic marker in LARC, potentially aiding risk stratification and guiding clinical decision-making. Further prospective studies are warranted to validate these findings and explore underlying biological mechanisms

Send Date: 2025/08/19

Code: DA-25120

ICGH 2025-019

Category: بیماریهای بدخیم - پاتوژن ۱۶

Recurrence rate of Colorectal Polyps 3-year after polypectomy : consider risk factors and Clinical PredictorsFahimeh Safarnezhad tameshkel¹, Mobin Obeidinia¹,Mohammad Kalateh¹, Parvin Hassanzadeh¹,Masoudreza Sohrabi^{1,*}¹ Gastrointestinal and Liver Diseases Research Center, Iran University of Medical Sciences**Introduction:** Colorectal polyps can lead to colorectal cancer, and dealing with their recurrence after polypectomy poses a significant clinical challenge. Our objective was to

assess the three-year recurrence rate of colorectal polyps and identify the related risk factors in patients referred to Firoozgar Hospital in Tehran.

Materials and Methods: This cohort study involved 282 patients with histologically verified polyps, out of which 147 underwent a colonoscopic follow-up after three years. Various clinical, demographic, endoscopic, and histopathological factors were examined to identify predictors of recurrence. To evaluate independent associations, logistic regression models were utilized.**Results:** In a cohort of 147 monitored patients, the recurrence rate was found to be 30%. Recurrence was significantly related to polyp histology ($p=0.002$), the level of dysplasia ($p=0.001$), and adenoma risk classification ($p=0.066$). The highest rates of recurrence were observed in sessile serrated (75.0%) and tubulovillous (50.0%) polyps. A strong correlation was identified between high-grade dysplasia and a notably increased recurrence rate (62.5% compared to 27.6%). Multivariable logistic regression analysis indicated that polyp type (hyperplastic versus tubular: OR=0.20, 95% CI: 0.05–0.78, $p=0.021$) and location (ascending colon OR=0.11, $p=0.018$; sigmoid OR=0.12, $p=0.010$; rectum OR=0.13, $p=0.027$) served as independent predictors for recurrence. There were no significant associations found with either gender or age.**Conclusion:** A third of the patients had recurrent polyps within a three-year period. Key factors associated with high-risk adenomas were the most significant predictors of recurrence. These results emphasize the necessity for personalized surveillance approaches for Iranian patients following polypectomy, .

Send Date: 2025/11/06

Code: DA-25114

ICGH 2025-020

Category: جاقی ۱۰۱

Effects of lubiprostone and bile acid on pancreatic β -cell function and metabolic health via gut FXR/FGF pathways in rats under high-fat high-fructose dietMina Sadat Izadi¹, Maedeh Ghasemi^{1,*}¹ Department of Physiology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran.**Introduction:** Modern dietary habits often involve consumption of high-fat, high-fructose diets (HFFD). Given the pivotal role of the Farnesoid X receptor (FXR) and its regulation of fibroblast growth factors (FGF)-15/21 in maintaining glucose and lipid homeostasis, this

study investigated the effects of lubiprostone alone and in combination with bile acid on the gut-pancreas axis and metabolic outcomes in animals subjected to HFFD.

Materials and Methods: Thirty-six male Wistar rats were randomly assigned to six groups: control diet (Ctrl), HFFD, HFFD plus vehicle (HFFD-V), HFFD plus bile acid (HFFD-B), HFFD plus lubiprostone (HFFD-L), and HFFD plus both bile acid and lubiprostone (HFFD-BL). Following 8 weeks on their respective diets, the rats received treatments for 10 days. Assessments included anthropometric measures, dietary intake, biomarkers of glucose and lipid metabolism, plasma levels of FGF-5, FGF-15, and FGF-21, and intestinal FXR expression.

Results: Rats consuming the HFFD demonstrated increased Lee index, adiposity, and deteriorated lipid profiles. Additionally, FXR protein expression and plasma FGF-15 decreased, while FGF-21 increased significantly. The elevated FGF-21 was associated with pancreatic β -cell dysfunction, evidenced by reduced HOMA- β , elevated blood glucose, and decreased insulin levels. Co-administration of lubiprostone with bile acid effectively reversed these metabolic disturbances.

Conclusion: Combined lubiprostone and bile acid therapy represents a promising approach to ameliorate metabolic impairments related to HFFD, with potential therapeutic benefits in the context of increasing consumption of saturated fats and fructose-rich beverages

Send Date: 2025/10/25

Code: DA-25122

ICGH 2025-021

Category: مری/ معده/ دئودنوم ۱.۱۲

Pre-Endoscopic Cardiac Evaluation: A Trade-Off in Safety? Increased Length of Stay and Morbidity Without MACE Reduction

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Introduction: Cardiovascular complications following non-cardiac procedures remain a significant contributor to perioperative morbidity and mortality. Preoperative testing, especially before low-risk interventions such as upper gastrointestinal endoscopy and colonoscopy, is often overutilised. This study aimed to assess the frequency of cardiovascular assessments prior to endoscopic procedures and evaluate their influence on patient management and

clinical outcomes in a hospitalized setting.

Materials and Methods: This retrospective cohort study evaluated hospitalized patients undergoing upper gastrointestinal endoscopy or colonoscopy at Shariati Hospital. Data on demographics, medical history, and clinical outcomes were extracted from electronic and paper records. Statistical analyses were conducted using SPSS, with significance defined as $p < 0.05$.

Results: A total of 270 patients were included, of whom 184 (68.1%) were male, with a mean age of 56.7 ± 17.9 SD years. Cardiovascular consultations were performed in 158 patients (58.5%), and 101 patients (37.4%) underwent echocardiography. The mean hospital length of stay was significantly longer for patients receiving cardiology consultation (7.2 ± 6.0 days) compared to those who did not (5.1 ± 3.5 days, $p < 0.01$). The incidence of hospital-acquired pneumonia was significantly higher among consulted patients (5.1% vs. 0.0%, $p = 0.02$), as was the rate of overall nosocomial infections (13.9% vs. 3.6%, $p < 0.01$). Cardiovascular medications were initiated in 31 (19.6%) of consulted patients. There was no significant difference in the rate of major adverse cardiovascular events (MACE) between groups ($p=0.57$). MACE occurred in 2 (1.8%) of patients who did not undergo cardiology consultation compared to 1 (0.6%) in consulted patients.

Conclusion: Pre-endoscopic cardiac evaluations appear to significantly influence procedural planning, pharmacologic management, and length of stay. While leading to greater resource utilization (prolonged hospital stay and increased infection rates), these evaluations provided no measurable clinical benefit in reducing major adverse cardiovascular events. These findings underscore the need for judicious risk assessment and strict adherence to guidelines for low-risk endoscopic procedures.

Send Date: 2025/11/06

Code: DA-25085

ICGH 2025-022

Category: اندوسکوپی - دستگاه گوارش تحتانی ۱.۱۹

بررسی ارتباط اضطراب با فرایند کولونوسکوپی در بیماران مراجعه کننده به کلینیک گوارش یزد در طی سال های ۱۴۰۳-۱۴۰۴

محمدحسین انتیک چی^۱، بیتا عابدی^{۱*}

^۱ دانشکده پزشکی علی بن ابی طالب، آزاد

زمینه و هدف: اضطراب پیش از کولونوسکوپی یکی از مهمترین عوامل روانشناختی مؤثر بر تجربه بیماران و کیفیت اجرای این روش تشخیصی است. این اضطراب میتواند بر همکاری بیمار، تحمل درد، و حتی تفسیر نتایج بالینی اثرگذار باشد. **روش بررسی:** این مطالعه توصیفی-تحلیلی مقطعی روی ۲۰۶ بیمار

مراجعه کننده به کلینیک تخصصی گوارش انجام شد. داده ها از طریق پرسش نامه اضطراب حالت-صفت اسپیلبرگ (STAI) و اطلاعات بالینی جمع آوری شدند. برای تحلیل داده ها از آزمون های آماری ANOVA، آزمون تعقیبی LSD و تحلیل توصیفی با نرم افزار SPSS استفاده شد. یافته ها: میانگین نمرات اضطراب حالت و صفت به ترتیب 46.95 ± 8.09 و 44.44 ± 7.99 بود. تفاوت معناداری در اضطراب صفت زنان بر اساس نتایج کولونوسکوپی مشاهده شد ($p=0.044$) ولی این تفاوت در مردان معنادار نبود. بیماران با وزن نرمال و تشخیص های نگران کننده مانند کولیت و پولیپ، سطح اضطراب بالاتری داشتند. همچنین، اضطراب بالاتر به طور معناداری با سختی انجام کولونوسکوپی در ارتباط بود. از سوی دیگر، عواملی مانند سابقه اعتیاد و تجربه قبلی کولونوسکوپی تأثیر آماری معناداری بر اضطراب نداشتند. نتیجه گیری: نتایج پژوهش نشان داد که اضطراب بیماران پیش از کولونوسکوپی تحت تأثیر عوامل متعددی از جمله جنسیت، تشخیص نهایی، شاخص توده بدنی و کیفیت فرآیند انجام قرار دارد. به ویژه، اضطراب صفت در زنان و بیماران با نتایج پاتولوژیکتر به طور معناداری بالاتر بود. این یافته ها ضرورت غربالگری و مداخلات روانی پیشگیرانه برای کاهش اضطراب در بیماران پرریسک پیش از انجام کولونوسکوپی را برجسته میسازد.

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Code: DA-25115

ICGH 2025-023

Category: اندوسکوپی - دستگاه گوارش تحتانی ۱.۱۹

مقایسه ضایعات پولیپوئید حین کولونوسکوپی به دو روش توصیف

ظاهری ضایعه با دید چشمی مستقیم به روش NBI

و مقایسه با نمونه پاتولوژی اخذ شده از ضایعه در بیماران مراجعه

کننده به بخش آندوسکوپی مرکز آموزشی درمانی امام رضا (ع)

الیه مطلبی^{۱*}، سید یعقوب مودب^۱، محمد امین محمدزاده قره باغی^۱

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زمینه و هدف: پولیپ های کولورکتال از شایع ترین ضایعات گوارشی هستند که می توانند زمینه ساز آدنوم های پیشرفته و کارسینوم کولورکتال شوند. کولونوسکوپی با مشاهده مستقیم ضایعات و استفاده از روش های تصویربرداری پیشرفته، امکان تشخیص ضایعات را فراهم می کند. هدف از این مطالعه مقایسه دقت تشخیص بصری ضایعات پولیپوئید با نتایج پاتولوژی بود. روش بررسی: در این مطالعه مقطعی، ۱۸۰ بیمار تحت کولونوسکوپی قرار گرفتند و در مجموع ۲۳۰ ضایعه پولیپوئید مورد بررسی قرار گرفت. ضایعات از نظر اندازه، نوع مورفولوژی (سسایل یا پایه دار)، الگوی سطحی (Pit Pattern) و طبقه بندی JNET ارزیابی شدند.

سپس نتایج تشخیص بصری با یافته های هیستوپاتولوژی مقایسه گردید. یافته ها: دقت کلی تشخیص بصری در مقایسه با پاتولوژی ۸۲.۶٪ بود. حساسیت در تشخیص ضایعات نئوپلاستیک ۹۱٪ و ویژگی آن ۷۸٪ گزارش شد. طبقه بندی JNET در تشخیص ضایعات هیپرپلاستیک و بدخیم دقت بالایی داشت اما در ضایعات Type 2B میزان تطابق کاهش یافت. همچنین اندازه بزرگتر پولیپ و مورفولوژی سسایل با خطر بالاتر نئوپلازی پیشرفته همراه بودند. ترکیب JNET و Pit Pattern دقت تشخیص را تا ۹۴٪ افزایش داد. نتیجه گیری: تشخیص بصری ضایعات پولیپوئید می تواند در بسیاری از موارد جایگزین مناسبی برای پاتولوژی باشد، به ویژه در پولیپ های کوچک و هیپرپلاستیک. با این حال، در ضایعات مرزی و پرخطر همچنان بررسی

هیستوپاتولوژی ضروری است. استفاده از روش های نوین تصویربرداری و استانداردهای آموزش آندوسکوپیست ها می تواند دقت تشخیص را ارتقا بخشد.

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Code: DA-25097

ICGH 2025-024

Category: اندوسکوپی - دستگاه گوارش تحتانی ۱.۱۹

Comparative Endoscopic Findings in COVID-19

Patients versus Controls: A Cross-Sectional Study

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Introduction: SARS-CoV-2 infection presents with gastrointestinal symptoms in approximately 10-20% of cases, including diarrhea, nausea, and vomiting. The endoscopic characteristics of COVID-19-related gastrointestinal manifestations remain incompletely characterized. This study aimed to compare endoscopic findings between COVID-19 patients and non-COVID controls presenting with gastrointestinal symptoms.

Materials and Methods: This cross-sectional comparative study included 120 patients divided into two groups: COVID-19-positive patients (n=60) with PCR-confirmed SARS-CoV-2 infection and gastrointestinal symptoms requiring endoscopy, and COVID-19-negative controls (n=60) with similar endoscopic indications. Demographic data, clinical symptoms, and endoscopic findings were systematically documented. Upper endoscopy (esophagogastroduodenoscopy) was performed in all patients, with colonoscopy conducted when clinically indicated. Statistical analysis was performed using SPSS software.

Results: The cohort comprised 77 males (64.2%) and 43 females (35.8%), with a mean age of 56.97 ± 17.51 years. COVID-19-positive patients demonstrated significantly higher rates of nausea ($P < 0.001$), vomiting ($P = 0.006$), diarrhea ($P = 0.003$), and endoscopic gastritis ($P = 0.020$) compared to controls. Upper endoscopy revealed gastritis (with or without ulceration) as the most common finding, followed by gastroesophageal reflux disease (GERD) and peptic ulcer disease. Among 28 patients (23.3%) who underwent colonoscopy, 53.6% had normal findings, 25%

had masses, and the remainder showed inflammatory bowel disease or polyps. Serum AST levels were significantly elevated in COVID-19 patients ($P = 0.001$). Overall endoscopic abnormalities were more prevalent in the COVID-19 group ($P = 0.012$).

Conclusion: COVID-19 patients with gastrointestinal symptoms demonstrate significantly higher rates of endoscopic abnormalities, particularly gastritis, compared to non-COVID controls. Elevated liver enzymes and increased prevalence of mucosal inflammation suggest direct viral involvement or systemic inflammatory effects. Early endoscopic evaluation should be considered in COVID-19 patients with persistent gastrointestinal symptoms and elevated liver enzymes.

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Code: DA-25006

ICGH 2025-025

Category: ۲.۶ بیماریهای بدخیم

The expression levels of STAT6, IL-13 and GATA 3 were measured in patients with colorectal cancer.

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Introduction: Colorectal cancer (CRC) is one of the most prevalent malignancies worldwide.

The tumor microenvironment and immune responses are critical determinants of CRC progression and patient outcomes. Among immune-related factors, STAT6, IL13, and GATA3 are of particular interest due to their pivotal roles in regulating Th2-type immune responses. STAT6 is a transcription factor activated by cytokines such as IL-4 and IL-13, orchestrating downstream signaling that promotes tumor-supportive inflammation. IL13 is a key Th2 cytokine implicated in both immune regulation and tumor biology, while GATA3 acts as a master regulator of Th2 cell differentiation. Dysregulation of these genes can shift the immune landscape, potentially facilitating tumor growth and immune evasion, making them important candidates for investigation in CRC.

Materials and Methods: This study included 100 CRC patients and 100 healthy controls. Serum levels of STAT6 and IL-13 were quantified by ELISA. Expression of STAT6, IL-13, and GATA3 in tumor and adjacent normal tissues were assessed by quantitative Real-Time PCR (qRT-PCR).

Results: CRC patients exhibited significantly elevated serum STAT6 and reduced IL-13 compared to controls. In tumor tissues, STAT6 and GATA3 expression were

markedly increased, while IL-13 expression was decreased relative to adjacent normal tissues.

Conclusion: These findings support the involvement of STAT6 and GATA3 in fostering a Th2-biased immune environment that may promote CRC progression, while reduced IL-13 could indicate disrupted immune regulation. The altered expression of these genes highlights their potential as biomarkers and therapeutic targets in CRC. Further studies are warranted to elucidate their precise mechanistic roles and clinical utility.

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ICGH 2025-026

Category: ۲.۸ سنگ صفراوی

Association between Fermentable oligosaccharides, disaccharides, monosaccharides, and polyols (FODMAPs) and risk of gallstones: A Case-Control Study

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Introduction: Gallstone disease (GSD) is a common condition worldwide. It occurs when solid deposits form in the gallbladder or biliary tract due to imbalances in bile composition. Key factors that contribute to GSD include obesity, rapid weight loss, glucose intolerance, and diet. FODMAPs are short-chain fermentable carbohydrates that act as prebiotics, promoting the growth of helpful gut bacteria. This study aimed to explore the link between dietary FODMAP intake and the risk of gallstone formation.

Materials and Methods: This case-control study involved 189 adults diagnosed with gallstones and 342 controls without gallstones. We gathered demographic, lifestyle, and anthropometric data through face-to-face interviews. We assessed dietary intake over the previous year using a validated 168-item food frequency questionnaire. We calculated the intake of fermentable oligosaccharides, disaccharides, monosaccharides, and polyols.

Results: There was a significant correlation between a lower risk of GSD and a higher total FODMAP intake ($p < 0.001$). Higher intakes of lactose, polyols, total fructan, galacto-oligosaccharides, and total FODMAPs were all negatively associated with gallstone risk ($p < 0.001$) after adjusting for potential contributing factors.

Conclusion: However, there was no significant relation with fructose intake.

Send Date: 2025/11/16

Code: DA-25073

ICGH 2025-027

Category: استراتژی مدیریت ۲.۱

Evolving Paradigms in the Management of Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD): From Nomenclature Shifts to Multimodal Therapies – A Comprehensive Review

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Introduction: Metabolic dysfunction-associated steatotic liver disease (MASLD), previously termed non-alcoholic fatty liver disease (NAFLD), affects ~38% of adults globally, linked to metabolic syndrome, type 2 diabetes, and cardiovascular risks. Recent nomenclature updates to MASLD and its progressive form (MASH) emphasize cardiometabolic factors, broadening identification to lean patients. With limited approved therapies, this review synthesizes diagnostic and multimodal management strategies to prevent progression to fibrosis, cirrhosis, and hepatocellular carcinoma.

Materials and Methods: Narrative synthesis of 2023–2025 literature, including EASL-EASD-EASO guidelines, consensus statements, and phase 2/3 trials. Sources: PubMed, PMC, and key journals, focusing on non-invasive diagnostics, pharmacotherapy, lifestyle interventions, and multidisciplinary approaches.

Results: Non-invasive tools (FIB-4 ≥ 2.67 , transient elastography >7.9 kPa, SCORE for CVD risk) enable primary care fibrosis screening and specialist referral. Lifestyle interventions, including Mediterranean diets, ≥ 5 –10% weight loss, and exercise, reduce steatosis and inflammation. Resmetirom (THR- β agonist), FDA-approved for non-cirrhotic MASH with fibrosis, shows histological improvements (MAESTRO-NASH trials). Antidiabetic agents are effective: GLP-1/GIP agonists (semaglutide, tirzepatide) improve MASH resolution and weight loss; SGLT2 inhibitors (dapagliflozin, empagliflozin) lower steatosis and ALT; PPAR agonists (pioglitazone, lanifibranor) target inflammation and fibrosis; FXR agonists (obeticholic acid) enhance metabolism. Statins reduce liver-related events (HCC risk $\downarrow 53\%$) and promote regression. Emerging therapies (FGF21 analogs like efruxifermin, microbiome modulators) show antifibrotic potential in phase 2b trials. Combination therapies (e.g., GLP-1 + THR- β) address multifactorial pathogenesis, while multidisciplinary models optimize cardiometabolic outcomes.

Conclusions: MASLD requires personalized, integrated

care focusing on metabolic control, early screening, and novel therapies. Resmetirom and incretin agents mark significant advances, but long-term trials are needed to validate combination regimens and safety. This framework supports global guidelines to reduce MASLD's burden.

Send Date: 2025/09/07

Code: DA-25074

ICGH 2025-028

Category: استراتژی مدیریت ۲.۱

Recent Advances in the Management of Acute Pancreatitis: An Evidence-Based Review

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Traditional management relied on pancreatitis supportive therapy, but recent studies have shifted paradigms in hydration, pain control, and infection prevention

1. Fluid Resuscitation: From Aggressive to Goal-Directed Moderate hydration (1.5 mL/kg/h with bolus for hypovolemia) is superior to aggressive hydration.

2. Pain Management

Comparative studies indicate no superiority of opioids over NSAIDs or acetaminophen for early pain relief. Prolonged opioid use (>6 days) or delayed initiation after admission is linked to increased risk of severe AP and worse outcomes. COX-2 inhibitors and epidural analgesia show promise in selected severe cases but require larger confirmatory trials. Current evidence supports a WHO step-up approach, starting with non-opioids.

3. Nutritional Support: Early and Individualized

Evidence refutes the traditional concept of “pancreatic rest.” Immediate or early oral feeding (within 24–48 h) with a low-fat solid diet is safe and shortens hospital stay. If oral feeding is not feasible, tube feeding after 72 h is recommended, with nasogastric and nasojejunal routes being equally effective. Parenteral nutrition should be reserved for rare cases where enteral feeding is impossible.

4. Antibiotic Stewardship and Infection Control

Routine prophylactic antibiotics are no longer recommended, as they fail to prevent infected necrosis and increase antimicrobial resistance. Procalcitonin-guided algorithms reduce unnecessary antibiotic use without worsening outcomes (PROCAP trial, 2023). Antibiotics should be initiated only for proven infection (positive cultures, gas in necrotic collections, or clinical deterioration). Antifungal prophylaxis remains unjustified, though fungal superinfections are a concern in prolonged

ICU stays.

5. Emerging Targets and Future Directions

Experimental therapies including omega-3 fatty acids, butyrate, and biologics (e.g., infliximab) show promise in modulating systemic inflammation but lack definitive clinical evidence. Genetic testing and microbiome-directed therapies may help identify high-risk patients and personalize care. Future research priorities include strategies to attenuate systemic inflammation, prevent multiorgan failure, and refine biomarker-guided decision-making.

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Code: DA-25025

ICGH 2025-029

Category: ۲.۱ استراتژی مدیریت

بررسی موانع و چالشهای غربالگری کانسر کولون در جنوب غرب ایران

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زمینه و هدف: سرطان کولورکتال یکی از شایع ترین بدخیمی ها و از علل اصلی مرگ و میر ناشی از سرطان در جهان محسوب میشود. مطالعه حاضر با هدف بررسی چالش ها و موانع انجام غربالگری سرطان کولورکتال در استان خوزستان، واقع در جنوب غرب ایران، انجام شد. **روش بررسی:** این مطالعه طی یک دوره شش ماهه بر روی کلیه افراد بالای ۴۰ سال که به درمانگاه های سرپایی گوارش سه مرکز ارجاعی مراجعه کرده یا از بستگان بیماران بستری در بخش گوارش بودند، انجام شد. از شرکت کنندگان در مورد سابقه انجام غربالگری سرطان کولورکتال سوال شد و در صورت عدم انجام غربالگری، دلایل احتمالی آن مورد پرسش قرار گرفت. **یافته ها:** در مجموع ۲۴۰۳ نفر شامل ۱۲۷۶ مرد (۵۳.۱٪) با میانگین سنی ۵۱ سال مورد بررسی قرار گرفتند. بیش از نیمی از شرکت کنندگان (۶۰.۸٪) دارای تحصیلات دانشگاهی بودند و ۴۶.۷٪ سابقه خانوادگی سرطان روده بزرگ در بستگان درجه یک یا دو داشتند. حدود سه چهارم (۷۵.۶٪) از شرکت کنندگان از امکان تشخیص سرطان پیش از بروز علائم بالینی بی اطلاع بودند و ۸۶.۸٪ آگاهی از وجود روش های بالینی تشخیص زودهنگام نداشتند. همچنین ۷۸.۶٪ هیچ آگاهی کلی نسبت به سرطان روده بزرگ نداشتند. در میان کسانی که آگاهی داشتند، ۴۷.۹٪ اطلاعات خود را از رسانه های اجتماعی و اینترنت و ۱۶٪ از کادر درمان دریافت کرده بودند. ۴۱.۹٪ از شرکت کنندگان در مطالعه هیچ آشنایی با کولونوسکوپی نداشتند و اکثریت قریب به اتفاق (۸۹.۹٪) تاکنون در هیچ برنامه غربالگری شرکت نکرده بودند. در میان شرکت کنندگان در برنامه های غربالگری، شایع ترین روش انجام شده کولونوسکوپی (۷۳.۹٪) بود و ۵۷٪ تمایل داشتند که در آینده در برنامه های غربالگری شرکت کنند. **نتیجه گیری:** ناآگاهی عمومی مهم ترین مانع در انجام غربالگری سرطان روده بزرگ محسوب می شود. بنابراین، رسانه های اجتماعی و مطبوعات، رادیو و تلویزیون باید با اجرای برنامه های منظم آموزشی و اطلاع رسانی، این خلأ را برطرف کرده و نقش خود را در ارتقای سلامت جامعه ایفا کنند.

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Code: DA-25066

ICGH 2025-030

Category: ۲.۱ استراتژی مدیریت

Harnessing Gastric Microbiota-Derived Postbiotics: A Novel Strategy to Suppress Candida albicans Biofilm Virulence

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Introduction: The gastric microbiota produces bioactive metabolites, postbiotics, essential for maintaining gastrointestinal homeostasis and defense against pathogens. A clinical challenge is combating biofilm-mediated infections by the opportunistic fungus *Candida albicans*, a leading cause of fungal superinfections characterized by intrinsic resistance to conventional antifungals. Moving beyond conventional probiotics, this study investigates a novel therapeutic strategy by harnessing the innate antagonistic potential of the gastric microbiome itself. The objective was to isolate and characterize a postbiotic fraction derived from a gastric microbiota and evaluate its efficacy against *C. albicans* biofilm formation.

Materials and Methods: Twenty gastric biopsy samples were collected from patients with gastritis and atrophic gastritis and enriched in BHI broth under aerobic and anaerobic conditions at 37 °C. Serial dilutions were plated on different culture media, yielding 65 isolates. Two lead strains (Q3, M2) were selected based on a multifaceted safety and efficacy profile: non-hemolytic activity, acid/bile tolerance, Caco-2 cell adhesion, and antibiotic susceptibility. Postbiotics were extracted and lyophilized. Molecular identification confirmed the strains as *Lactacaseibacillus* and *Ligilactobacillus* species. Antifungal activity was evaluated against *Candida albicans* by broth microdilution to determine minimum inhibitory and minimum fungicidal concentrations (MIC and MFC) values. Anti-biofilm effects were examined using Crystal Violet assay.

Results: The postbiotic fraction demonstrated potent fungistatic and fungicidal activity against *C. albicans* (MIC: 0.125 mg/mL; MFC: 0.5 mg/mL). Most significantly, it exhibited a dose-dependent inhibition of biofilm formation, achieving a maximum reduction of 51% (±3.2%) at a

concentration of 1 mg/mL compared to untreated controls ($p < 0.001$).

Conclusion: This study is the first to demonstrate that postbiotics derived from native gastric *Lactobacillus* and *Ligilactobacillus* strains possess potent anti-biofilm activity against *C. albicans*. These findings position these gastric microbiota-derived metabolites as a promising novel class of anti-virulence agents, offering a targeted therapeutic strategy to combat biofilm-associated resistance in fungal infections.

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ICGH 2025-031

Category: پاتوژنز: عوامل میکروبی ۲.۳

Novel *cagA* Alleles and SNP-Induced Structural Variations in *H. pylori*:

Implications for Virulence and Pathogenesis.

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Introduction: Single nucleotide polymorphisms (SNPs) within the *cagA* gene of *Helicobacter pylori* influence the bacterium's virulence by altering the amino acid sequence and phosphorylation sites of the CagA protein, affecting its interactions with host proteins. These variations are linked to clinical outcomes such as increased gastric cancer risk and severe inflammatory responses. Understanding *cagA* SNPs aids in unraveling *H. pylori* pathogenic mechanisms and developing targeted therapies and vaccines, emphasizing the need for personalized treatment approaches.

Materials and Methods: In this study, 210 WGSs obtained from gastric biopsy samples of patients diagnosed with *H. pylori* infection. A fully offline, automated Python/SQL-based workflow integrated with BLAST+ was employed to identify novel *cagA* alleles and detect SNPs within the identified alleles. SNPs in the *cagA* gene were identified by analyzing sequences for validated SNPs gathered from previous studies with known positions and effect on the reference gene HP0547. In order to identify the effect of SNPs on protein sequence of these alleles, nucleotide sequences were translated to protein sequences and blastp was performed. Protein sequences without the SNPs were generated as control sequences for each allele to facilitate comparison and assessment of the SNP effects. For analyzing structural effects of these SNPs, AlphaFold3 used

to predicted 3D structures of proteins. Pairwise Alignment Tool was performed in two methods (rigid alignment (TM-align) and flexible alignment (jFATCAT)) between two forms of each allele's protein structure in order to assess structural effect of SNPs.

Results: From 210 WGSs, 81 *cagA* novel alleles were found, and from previous studies 24 SNPs with known position and effect were gathered. The SNP analysis revealed a mix of conserved and variable SNP patterns among the *cagA* sequences. Notably SNPs such as G1814A and AA1399-1400GG were consistently present in all samples, while others, such as A2341T and C1279A, were uniformly absent. Additionally, it was observed that some SNPs exhibited variable distribution; for instance, C623G was identified in only one sample, whereas T3435C was detected in all but one sequence.

To evaluate the structural effect of SNPs on protein conformation, variants were classified into five categories based on the extent of their structural impact. (1) local deviations effect (40 alleles; 50%); (2) possible artifacts (24; 30%); (3) likely flexibility effect only (11; 13.75%); (4) likely disruptive, profound local and subtle global effects (3; 3.75%); (5) minimal structural effect (2; 2.5%). Overall, local deviations accounted for half of all SNP-induced structural variations, while major disruptive and minimal structural effects were comparatively rare.

Conclusion: Our findings reveal distinct patterns of *cagA* SNP conservation and variability, with some mutations likely under strong selective pressure while others are rare or absent, suggesting structural or functional constraints. Structural modeling indicates that certain SNPs may significantly alter local CagA conformation and potentially affect its interaction with host proteins, highlighting their possible role in *H. pylori* pathogenicity. These insights provide a basis for prioritizing variants for functional studies and could inform targeted therapeutic or vaccine development.

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Code: DA-25090

ICGH 2025-032

Category: پاتوژنز: عوامل میکروبی ۲.۳

A Predictive Genomic Signature for *Helicobacter pylori* Biofilm Formation and Strength: From Genomic Determinants to Clinical Risk Stratification in Iran

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Introduction: Biofilm formation underpins *Helicobacter pylori* persistence and treatment failure. Building on a prior pilot, the present study recruited 77 literature-curated biofilm-former genomes with published strength rankings, and examines 304 biofilm-related genes. The expanded dataset is used to define an essential gene set present across biofilm formers, resolve genes that modulate biofilm strength between ranking clusters, and synthesize a predictive signature applicable to 210 Iranian isolates. By clarifying these genomic determinants, the study enables genomics-first risk stratification of clinical strains, strengthens surveillance in high-burden settings, and prioritizes targets for anti-biofilm interventions—ultimately aiming to improve eradication outcomes.

Materials and Methods: The analysis considered 210 Iranian clinical genomes and a curated set of 77 literature-reported biofilm-former genomes with published biofilm-strength ranking clusters. Using a fully offline, automated Python/SQL + BLAST+ workflow, 304 biofilm-related genes were profiled within each genome under predefined identity/coverage thresholds. As genes present in all ranked biofilm genomes, a core (“essential”) set was defined. Reported biofilm-power clusters then compared with each other to identify genes positively or negatively associated with higher biofilm strength and to derive a compact multi-gene panel. That panel was applied to the 210 Iranian genomes to estimate both likelihood and relative power of biofilm formation.

Results: In this study, we identified 166 genes which are essential for biofilm formation. These genes were present in 164/210 Iranian strains analyzed, with the exception of 30 strains that were missing only one or two genes. Furthermore, we classified an initial set of 304 genes based on their presence in 77 biofilm-forming strains, which were grouped according to their biofilm formation strength (strong, moderate, and weak). This analysis led to the identification of a 22-gene panel predictive of biofilm formation potency. According to this genetic prediction, the Iranian strains were distributed as follows: high, 79/210 (37.6%); moderate, 69/210 (32.9%); and low, 62/210 (29.5%). This indicates a significant divergence between genetic potential for biofilm formation in these strains.

Conclusion: Expanding to 304 genes across ~300 genomes

advances from descriptive catalogs into a predictive gene signature of biofilm-forming potential in *H. pylori*. The 166-gene essential set nominates conserved targets central to biofilm formation, whereas cluster-level positives/negatives highlight leverage points that intensify or attenuate biofilm strength. Application to 210 Iranian clinical genomes provides a genomics-first triage for surveillance and therapeutic planning. Next steps include benchmarking predictions against standardized biofilm assays, external validation in independent cohorts, and calibration of panel thresholds for routine reporting.

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Code: DA-25018

ICGH 2025-033

Category: بیماری سلیاک / سندروم های سوء تغذیه و انتروپاتی های غذایی

Prevalence of diarrhea and constipation in celiac disease with hypothyroidism

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Introduction: There are few reports on the prevalence of chronic diarrhea and constipation in celiac disease (CD) with hypothyroidism, so this research was designed.

Materials and Methods: Data on adult patients older than 18 years were extracted from Fars Celiac Registry (Approval ID: IR.SUMS.REC.1399.525) affiliated to Shiraz University of Medical Sciences. CD was defined as an increased IgA anti-transglutaminase antibody and Marsh type 2 or more in histology. Hypothyroidism was defined as a TSH more than 5.50 mIU/mL. Chronic constipation was defined as at least three of the following symptoms in a 3-month period. Passing less than 3 stools per week, passing hard, lumpy stools, pebble-like, or straining to empty the stool. Chronic diarrhea is defined as having loose or watery stools occurring three or more times a day for a duration of 4 weeks or longer.

Results: Overall 159 CD patients were analyzed. Euthyroid

cases were compared with hypothyroid patients in 4 groups in terms of the presence of constipation and diarrhea. There was no significant difference ($PV=0.68$) in the frequency of constipation or diarrhea between the groups (Table 1).

Table 1. Prevalence of diarrhea and constipation in celiac disease with hypothyroidism (n=159)

Defecation frequency	Euthyroid; (n= 141)	Hypothyroidism; (n= 18)	P value*
Diarrhea	51(36.2%)	9 (50.0%)	0.68
Constipation	24(17.0%)	2(11.1%)	
Intermittent Diarrhea and Constipation	14(9.9%)	1(5.6%)	
Normal	52(36.9%)	6(33.3%)	

Notes: *Chi-squared test

Conclusion: This result showed that hypothyroidism in patients with CD did not affect the frequency of constipation or diarrhea, therefore, further studies in this field are recommended.

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Code: DA-25058

ICGH 2025-034

Category: بیماری سلیاک / سندروم های سوء تغذیه و انتروپاتی های ۲.۴ غذایی

Trends in Celiac Disease: over the Past Two Decades

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Introduction: Celiac disease (CD) is a chronic autoimmune disorder triggered by the ingestion of gluten in genetically predisposed individuals, leading to small intestinal damage and a spectrum of gastrointestinal and systemic symptoms. Over the past two decades, the global understanding of celiac disease has undergone significant evolution, driven by advances in diagnostic tools, heightened awareness, and changing environmental factors, such as changes in dietary patterns and gut microbiota.

This study aims to examine the prevalence and diagnosis trends of celiac disease over the past two decades.

Materials and Methods: In this retrospective cohort study, data were obtained from patients in the provinces of Khorasan Razavi, North Khorasan, and South Khorasan (Iran) who visited the celiac clinic and were diagnosed with biopsy-proven celiac disease. For trend analysis, patients were divided into three groups based on their year of diagnosis: 1993–2010, 2010–2017, and 2018–2025

Results: This study included 1963 patients with biopsy-confirmed celiac disease. The distribution of diagnosed cases over time showed that 116 patients were identified

between 1993–2010, 754 patients between 2010–2017, and 1093 patients between 2018–2025. Dyspepsia as a presenting symptom had significant difference lately by first decade of diagnosis.

Conclusion: A clear upward trend in the number of diagnosed cases was observed. Such an increase may reflect both a genuine rise in incidence and improved recognition, in line with international reports that highlight a gradual transition from the traditional gastrointestinal presentation of CD toward more atypical and extra-intestinal forms.

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Code: DA-25040

ICGH 2025-035

Category: بیماری سلیاک / سندروم های سوء تغذیه و انتروپاتی های ۲.۴ غذایی

Coeliac disease in later life must not be missed

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Introduction: Coeliac disease (CD) is a persistent autoimmune inflammatory condition affecting the digestive system and stands as a primary contributor to enduring malabsorption issues. Observations during endoscopy, such as scalloping and fissuring, have been documented to exhibit a comparable pattern with histopathological findings in CD. The objective of this study is to establish the relationship between endoscopic observations (scalloping, fissuring, or both) and histopathological results in CD patients aged 60 years and above

Materials and Methods: This observational research was carried out on 41 CD patients ≥ 60 years. Individuals displaying symptoms suggestive of CD underwent serology assessments and upper gastrointestinal endoscopy accompanied by duodenal biopsy. The severity of intestinal injury was assessed utilizing the Marsh-Oberhuber classification system, which relies on histopathological observations

Results: Overall, 80.5% of the patients were female and the mean age of the patients at diagnosis was 65.68 ± 4.38 years with mean body mass index (BMI) of 24.39 ± 5.31 . Out of 41 patients, 30 (90.9%) of the patients who displayed scalloping, fissuring, or both were categorized as Marsh 3. Across the entire patient cohort, the sensitivity, specificity, positive predictive value, and negative predictive value of endoscopic observations regarding the histological identification of CD were 81.08%, 25%, 90.91%, and 12.5%, respectively. The positive likelihood ratio was 1.08,

and the negative likelihood ratio was 0.76.

Conclusion: Further evaluations are required for establishing the relationship between endoscopic findings such as scalloping, fissuring, or both and histopathological results in CD adult patients over 60 years.

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ICGH 2025-036

Category: بیماری سلیاک / سندروم های سوء تغذیه و انتروپاتی های ۲.۴ غذایی

بررسی توصیفی ویژگی های بالینی و دموگرافیک بیماران سلیاک بالای ۱۸ سال مراجعه کننده به کلینیک سلیاک بیمارستان علی ابن ابیطالب زاهدان طی سال های ۱۳۹۵-۱۴۰۱

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^۱ دانشگاه علوم پزشکی زاهدان

زمینه و هدف: بیماری سلیاک (CD) یک بیماری روده باریک به واسطه سیستم ایمنی می باشد که در افرادی که از نظر ژنتیکی مستعد هستند به دنبال مصرف گلوتن سبب آسیب به مخاط روده باریک می شود. در طول چند دهه اخیر به دنبال شناخته شدن بیماری سلیاک و ارائه تعریف درست از این بیماری افزایش عمده ای در آگاهی از این بیماری در جمعیت عموم وجود داشته است. با این حال در بسیاری از موارد بیماری تشخیص داده نمی شود. بنابراین با توجه به افزایش روز افزون بیماری سلیاک در سراسر جهان افزایش آگاهی عمومی از طریق اطلاع رسانی محصولات غذایی حاوی گلوتن میتواند به افزایش درک این بیماری و پیداکردن راه های تشخیصی و درمانی کمک قابل توجهی کند این پژوهش با هدف تعیین ویژگی های بالینی و دموگرافیک بیماران سلیاک بالای ۱۸ سال مراجعه کننده به بیمارستان علی ابن ابیطالب زاهدان در سال ۱۴۰۱ انجام شده است. **روش بررسی:** پژوهش حاضر یک مطالعه توصیفی - مقطعی میباشد که در بیمارستان علی ابن ابی طالب زاهدان انجام شده است. جامعه مورد مطالعه، کلیه بیماران سلیاک بالای ۱۸ سال مراجعه کننده به کلینیک سلیاک بیمارستان علی ابن ابی طالب زاهدان طی سالهای ۱۳۹۵-۱۴۰۱ بوده است. معیارهای ورود به مطالعه شامل پرونده بیمارانی بوده که به صورت کامل تکمیل شده باشد و همچنین تشخیص یافته های پاتولوژیک و آزمایش تیتراژ TTG، ابتلا به بیماری سلیاک باشد بوده است. حجم نمونه در این مطالعه تمامی بیماران سلیاک بالای ۱۸ سال مراجعه کننده به کلینیک سلیاک بیمارستان علی ابن ابی طالب زاهدان که گزارشات آسیب شناسی به همراه تیتراژ Anti-TTG داشته باشند در سالهای ۱۳۹۵-۱۴۰۱ بوده است. **یافته ها:** تعداد ۳۰۲ داده جمع آوری شد. پایین ترین سن در میان بیماران سلیاک، ۱۸ و بالاترین ۷۷ و میانگین برابر (۳۴.۶۵) بود نفر مرد و ۲۰۸ نفر (۹/۶۸٪) زن، پایین ترین سن تشخیص ۹۴ (۱/۳۱٪) سلیاک در میان بیماران ۱۲ سال و بالاترین سن تشخیص ۷۷ سال و میانگین برابر (۵۷/۳۱) بود. ۲۳۵ نفر (۸/۷۷٪) شهرستانشین و ۶۷ نفر (۲/۲۲٪) روستا نشین، ۹۷ نفر (۱/۳۲٪) دارای سابقه فامیلی و ۲۰۵ نفر (۹/۶۷٪) فاقد سابقه خانوادگی، ۶۱ نفر (۲/۲۰٪) مارش I، ۴۰ نفر (۲/۱۳٪) مارش II ۶۵ نفر (۵/۲۱٪) مارش IIIa، ۶۶ نفر (۹/۲۱٪) مارش IIIb ۷۰ نفر (۲/۲۳٪) مارش IIIc، ۱۴۷ نفر (۷/۴۸٪) دارای علائم گوارشی و ۵ نفر (۶/۱٪) دارای علائم غیر گوارشی و ۱۵۰ نفر (۷/۴۹٪)

٪) دارای هم علائم گوارشی و هم غیر گوارشی بودند. **نتیجه گیری:** شیوع سلیاک در بالغین در زنان بیشتر از مردان، در جمعیت شهرنشین بیشتر از روستانشین و در متاهلین بیشتر از مجردها می باشد. همچنین از نظر علائم بالینی، شیوع علائم گوارشی بسیار بیشتر از غیر گوارشی می باشد.

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ICGH 2025-037

Category: اپیدمیولوژی / علت شناسی ۲.۵

Potential Association Between Dietary Supplement Use and Onset of Inflammatory Bowel Disease: A Case Series"

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Introduction: The potential relationship between dietary supplement consumption and the onset or exacerbation of inflammatory bowel disease (IBD) remains underexplored. This study aimed to describe clinical characteristics and supplement use patterns among patients with newly diagnosed IBD.

Materials and Methods: We reviewed data from five patients presenting with IBD-like symptoms and a documented history of supplement use. Demographic, clinical, and laboratory data, as well as supplement type, dosage, and duration, were collected. Symptom resolution following supplement discontinuation was also recorded.

Results: The mean age of participants was 31.6 years (range 20–50), with a mean BMI of 26.2 kg/m². All patients reported regular exercise, predominantly bodybuilding (n=4) or wrestling (n=1). Commonly used supplements included whey protein (n=4), creatine (n=2), L-arginine (n=1), beta-alanine (n=1), and glutamine (n=1), with durations ranging from 20 days to 35 years. Omega-3 supplementation was reported in two cases. Gastrointestinal bleeding (GIB) was present in four cases, while abdominal pain and diarrhea were less frequent. Two patients experienced complete symptom resolution after discontinuing supplements. Family history of IBD was noted in two patients, and psychiatric comorbidity (generalized anxiety disorder) was observed in two cases. Laboratory evaluation showed variable vitamin D levels (range: 35–50 ng/mL) and no consistent pattern in lipid or liver enzyme abnormalities.

Conclusion: This case series highlights a potential temporal association between certain dietary supplements—particularly high-dose, long-term whey protein and

creatine—and IBD symptom onset. Further controlled studies are warranted to determine causality and underlying mechanisms.

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Code: DA-25037

ICGH 2025-038

Category: اپیدمیولوژی / علت شناسی ۲.۵

Turn the wheel, the right way is here! An Alternative Perspective on the Role of Nutrition in the Pathogenesis of Ulcerative Colitis

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Introduction: While considerable research has examined dietary influences in these diseases, less attention directed toward examining diet as an etiological factor and disease trigger.

Materials and Methods: Considering the established role of suspected dietary factors in the pathogenesis of ulcerative colitis (UC) - as demonstrated by the arguments presented in this article - we propose a multicenter, controlled study employing dietary elimination protocols to investigate their impact on disease progression."

Results: Hypotheses on Ulcerative Colitis Pathogenesis:

1. Anatomically Restricted Involvement

The disease's confinement to the colon suggests the offending mechanism operates primarily at this site.

2. Rectal Involvement Pattern

Unexpected rectal involvement implies greater distal concentration of the pathogenic agent(s).

3. Terminal Ileum and Rectal Involvement

The involvement of both terminal ileum and rectum suggests prolonged luminal content-mucosa contact increases susceptibility to inflammation.

4. PSC Association Mechanism

The UC-PSC association may be explained by biliary secretion of intestinally absorbed materials, inducing bile duct inflammation and fibrosis.

Conclusion: This study would provide high-level evidence for dietary interventions in UC management, potentially leading to practice-changing recommendations.

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ICGH 2025-039

Category: اپیدمیولوژی / علت شناسی ۲.۵

Surgical Risk in Crohn's Disease: "Analysis of Iranian

Registry of Crohn and Colitis"

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Introduction: Crohn's disease (CD) is a chronic inflammatory condition affecting the full thickness of the gastrointestinal tract. Traditionally more prevalent in Western countries, recent studies show rising incidence in Asia and the Middle East. Surgical intervention is common, with estimates suggesting 50-80% of patients will require surgery due to complications or disease progression. Identifying predictors of surgical risk is crucial. This study aimed to explore factors associated with surgery in CD patients using data from the Iranian Registry of Crohn and Colitis (IRCC).

Materials and Methods: This retrospective cohort study was conducted at the Digestive Disease Research Institute, Tehran University of Medical Sciences. Data from adult patients enrolled in the IRCC up to December 2024 were analyzed. Variables assessed included demographics, disease duration and behavior, smoking history, prior appendectomy, perianal and extraintestinal manifestations, and medication use. Univariate logistic regression was used to evaluate associations between these factors and surgery risk.

Results: Among 2,012 patients, 17.2% had undergone surgery. Key factors associated with surgery included: age 30-39 years (OR=1.55), disease duration ≥ 10 years (OR=1.38), and presence of fistulas (OR=2.07). Fistulizing (OR=17.80) and stricturing (OR=7.26) disease behaviors were strongly linked to surgery. Use of immunomodulators (OR=1.32) and anti-TNF agents (OR=1.53) also increased surgical risk. No significant associations were found for

gender, smoking status, corticosteroid use, or extraintestinal symptoms

Conclusion: Longer disease duration, fistula formation, specific disease behaviors, and use of immunosuppressive therapies are key predictors of surgery in CD patients. These findings can aid in risk stratification and help guide more individualized treatment plans in clinical practice.

Send Date: 2025/09/06

Code: DA-25069

ICGH 2025-040

Category: اپیدمیولوژی / علت شناسی ۲.۵

Exploring Age-Related Differences in Ulcerative Colitis: Findings from the Iranian Registry of Crohn and Colitis (IRCC)

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Introduction: Ulcerative colitis (UC) is a chronic inflammatory bowel disease (IBD) with rising incidence, particularly in individuals aged 15–30 and 50–70 years. Older UC patients often experience worse outcomes due to frailty, comorbidities, and increased vulnerability to adverse effects of immunomodulatory and biologic therapies. This study aimed to compare characteristics of UC patients aged ≥60 years with those <40 years, using data from the Iranian Registry of Crohn and Colitis (IRCC).

Materials and Methods: This cross-sectional study included all eligible UC patients in the IRCC by the end of 2023. Data were collected across five domains: demographics, symptoms, quality of life, healthcare utilization, and disease management. Key variables

included comorbidities, disease duration, extent (Montreal classification), medication history, hospitalizations, extraintestinal manifestations, and prior surgeries. Disease activity was assessed using the IBD Manitoba Index, and statistical analyses were conducted using SPSS v23.

Results: Among 6,394 UC patients, 5.3% had late-onset UC (≥60 years). This group exhibited significantly milder disease severity, with 68.7% having mild UC, compared to 49.2% in younger patients ($P < 0.001$). There were no significant differences in complications (colorectal cancer, hospitalization, or surgery). Extraintestinal manifestations were less frequent in older patients (37.5% vs. 49.4%, $P < 0.001$), with uveitis more common and spondylitis less frequent. Older patients were less likely to receive immunomodulators or corticosteroids ($P < 0.001$), while anti-TNF use was similar across age groups. Left-sided colitis was more prevalent in the elderly (32.5% vs. 19.3%, $P < 0.001$), but disease control rates were similar.

Conclusion: Late-onset UC in Iranian patients is associated with a milder clinical course and distinct disease characteristics. These findings highlight the need for age-adjusted, individualized treatment strategies in UC management.

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Code: DA-25043

ICGH 2025-041

Category: اپیدمیولوژی / علت شناسی ۲.۵

: Turn the wheel, the right way is here! An Alternative Perspective on the Role of Nutrition in the Pathogenesis of Ulcerative Colitis

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Introduction: While considerable research has examined dietary influences in these diseases, most investigations have emphasized nutrition's role in symptom aggravation or inflammatory modulation, with comparatively less attention directed toward examining diet as an etiological factor and disease trigger.

Materials and Methods: I would like to draw the attention of esteemed researchers to the etiological role of nutrition in the pathogenesis of disease, based on the following evidence:

1. **It is confined to the colon, so the offending mechanism is concentrated or present mostly in this part.**
2. **The rectum is involved unexpectedly, which means the offending agent is concentrated more distally.**

3. ****Involvement of the terminal ileum and rectum means that prolonged contact of luminal content with the mucosa leads to a higher probability of involvement.****

4. ****The association of PSC with UC may be explained by the fact that material absorbed through the colonic/intestinal mucosa is secreted into the bile ducts, which in turn leads to bile duct inflammation and fibrosis. CCA is four times more prevalent in IBD even without PSC.****

5. ****The higher prevalence of the disease in urban communities suggests that the urban lifestyle (or the diet in industrialized and developed countries) contains more offending agents.****

6. ****Disease exacerbation with emotional stress can be explained by the fact that emotional stress impairs the ileal brake and accelerates bowel transit, leading to more rapid and greater-volume colonocyte contact with the offending agent(s).****

Results: According to these arguments, certain foods or additives (as i discuss in lecture)are implicated as potential triggers of the disease and must be evaluated in a controlled trial.

Conclusion: A critical reassessment of nutritional triggers—particularly modern dietary components and food additives—could unveil novel preventive and therapeutic avenues in IBD patients.

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Code: DA-25078

ICGH 2025-042

Category: 2.13 Gastroduodenal malignancies

Body size and occupational physical activity during the life course and gastrointestinal cancers

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Introduction: Evidence on the associations of body size and occupational physical activity (PA) during the life course with gastrointestinal cancers is inconclusive.

Materials and Methods: We analyzed data from the Golestan Cohort Study, a population-based prospective cohort study from Iran, with 50,045 individuals aged 40-75 years enrolled during 2004-2008 and followed through April 2023. Body size during adolescence, early adulthood, and at cohort baseline was assessed using validated pictograms.

Results: Large adolescent body size was associated with total gastrointestinal cancers (hazard ratio, HR: 1.09; 95% confidence interval, CI: 1.02-1.16) and liver cancer (HR: 1.49; 95% CI: 1.11-2.01). Large early-adulthood body size was associated with liver cancer (HR: 1.85; 95% CI: 1.35-2.52). Compared with normal weight during all stages, overweight or obesity during adolescence only or early adulthood only were associated with stomach cancer, esophageal squamous cell carcinoma, and liver cancer.

Lower levels of adolescent occupational physical activity (PA) were associated with colon cancer (HR: 1.39; 95% CI: 1.10-1.75), while lower levels at cohort baseline were positively associated with colon cancer and inversely associated with rectal cancer.

Conclusion: Our findings suggest that timing of obesity during the life course might differently affect risk of gastrointestinal cancers, while occupational PA was found to be associated with colon cancer only

Send Date: 2025/09/17

Code: DA-25127

ICGH 2025-043

Category: ۲.۱۳ بیولوژی مولکولی / ژنتیک / پاتولوژی

The transcriptomic landscape of gastric cancer: insights into the impact of EBV infection and cancer development

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Introduction: Gastric cancer (GC) is a major global health issue. Epstein-Barr virus (EBV) is considered a key factor that plays an important role in tumorigenesis and increases the risk of GC development. Here, we aimed to evaluate the differentially expressed genes in GC samples compared to normal tissue with known EBV status.

Materials and Methods: We applied bioinformatic approach to determine DEG across studied groups. We used microarray dataset (GSE51575) and investigated gene expression pattern in studied groups. We also performed network analysis and centrality measure to understand the broader functional relevance of recognized genes in cellular networks.

Results: According to our findings, 6 hub genes were identified in EBV-positive GC, among them, GZMB, CCR5, and SELL were the most important ones. In contrast, the EBV-negative GC group exhibited a broader molecular footprint, with 16 hub genes identified through network analyses. Genes such as CXCL10, SPP1, and ICAM1 were more prominent here. When comparing all GC samples to normal tissues, 25 hub genes were identified, including CDK1, CCNB1, and CCNA2. Moreover, no typical differentially expressed genes were found when all EBV-positive samples were compared to all EBV-negative samples.

Conclusion: It can be concluded that both EBV-specific effects and its' interaction with the tumor microenvironment should be considered important for biological understanding and therapeutic targeting of GC.

Send Date: 2025/11/08

Code: DA-25065

ICGH 2025-044

Category: ۲.۱۴ تشخیص بیماریهای بدخیم

روشهای غیر تهاجمی در تشخیص سرطانهای دستگاه گوارش در

مراحل اولیه

هانیه افرازنده^{۱،۲}

^۱ بیمارستان خاتم الانبیا، علوم پزشکی مشهد

زمینه و هدف: سرطانهای دستگاه گوارش فوقانی یکی از سرطانهای دستگاه گوارش بالغین عامل ۱.۳ میلیون مرگ در سال را تشکیل می دهند. (هاریسون ۲۰۲۵،

chapter ۸۵) و سرطان کولورکتال هم یکی از شایع ترین سرطانهای دستگاه گوارش می باشد و دومین عامل مرگ ناشی از سرطان در بالغین می باشد. تشخیص زودهنگام و دقیق سرطان ها برای بهبود نتایج درمان و افزایش بقای بیماران بسیار حیاتی است. روش های تهاجمی مانند اندوسکوپی و کلونوسکوپی با وجود دقت بالا با محدودیت هایی نظیر تهاجم، نیاز به آمادگی قبلی، عوارض احتمال و عدم پذیرش بیماران همراه هستند به همین دلیل توسعه روش های غیرتهاجمی برای غربالگری و تشخیص زودهنگام سرطانها از اهمیت ویژه ای برخوردار است. در این مقاله به بررسی روش های غیرتهاجمی با مرور بر بیومارکرهای سلولی و آزمایشگاهی جهت سرطان های دستگاه گوارش می پردازیم. بیومارکرهای سلولی و آزمایشگاهی شامل سلولهای تومورال در گردش (CTCs)، DNA تومورال در گردش (ctDNA)، اگزوزوم ها و پروتئین های نشانگر تومور است. همچنین بررسی الگوهای متیلاسیون DNA آزاد سلولی (ccfDNA) نیز در این زمینه نقش مهمی ایفا می کنند.

(Circulating tumor cells in gastric cancer: a systematic review and meta-analysis." Oncotarget, 2017.)

در این مقاله به تفصیل مارکرهای سلولی جهت تشخیص زودهنگام سرطان های کبد، پانکراس، کولورکتال، معده و مری می پردازیم.

Send Date: 2025/09/05

Code: DA-25014

ICGH 2025-045

Category: ۳.۱ مهارت بالینی پایه

بررسی تاثیر کنفرانسهای آفلاین دانشجویی بر میزان رضایت، یادگیری و عملکرد فراگیران دوره کارآموزی پزشکی بر اساس الگوی ارزشیابی آموزشی کرک پاتریک

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^۱ علوم پزشکی کردستان

زمینه و هدف: یکی از تاثیرات پاندمی کرونا ویروس در عصر دیجیتال امکان و ضرورت استفاده از امکانات مجازی بود. این مطالعه با هدف تعیین میزان رضایت، یادگیری و عملکرد فراگیران دوره کارآموزی پزشکی از کنفرانسهای آفلاین در گروه داخلی دانشگاه علوم پزشکی کردستان در سال ۱۴۰۰ انجام شد. رضایت، یادگیری و عملکرد فراگیران دوره کارآموزی پزشکی از کنفرانسهای آفلاین در گروه داخلی دانشگاه علوم پزشکی کردستان در سال ۱۴۰۰ انجام شد.

روش بررسی: این یک مطالعه نیمه تجربی بود. جامعه آماری شامل ۸۳ نفر از دانشجویان بودند و ۷۴ نفر از آنان وارد مطالعه شدند. در ابتدای دوره ۷۴ عنوان مرتبط با دوره کارآموزی داخلی برای دانشجویان جهت ارائه کنفرانس آفلاین در نظر گرفته شد. کنفرانس های ارائه شده از سوی اساتید و دانشجویان دیگر مورد مشاهده و ارزیابی و بازخورد قرار گرفت. برای ارزیابی اثر بخشی این دوره آموزشی از سه سطح اول الگوی ارزشیابی کرک پاتریک استفاده شد. رابطه بین نمرات پایان دوره ایی شامل آزمونهای آسکی و چهارجوابی با مشاهده کنفرانس های سایر دانشجویان سنجیده شد. آنالیز داده ها در نرم افزار SPSS ۲۴ انجام شد. برای مقایسه اختلاف میانگین نمرات در دو جنس و همچنین در دو سطح متغیر درصد مشاهده کنفرانس های آفلاین (کمتر از ۵۰ درصد و بیش از ۵۰ درصد) از آزمون تی مستقل استفاده شد.

یافته ها: داده های ۴۱ نفر مرد و ۳۳ نفر زن شرکت کننده آنالیز شد. میانگین و انحراف معیار سن آنها ۲۴.۲۸ با انحراف معیار ۲.۶۳ سال بود. نتایج مطالعه نشان داد

تعداد ۵۴ نفر بیش از ۵۰ درصد کنفرانس ها را مشاهده نموده بودند. میانگین نمره رضایت کارآموزان از برگزاری کنفرانسهای آفلاین ۶۸.۳۲ با انحراف معیار ۱۴.۵۸ بود. میانگین نمره رضایت شرکت کنندگان از آموزش در کسانی که درصد بالایی از کنفرانس های آفلاین را مشاهده کرده بودند به صورت معنی داری بیشتر بود. نتیجه گیری: برگزاری کنفرانس های آفلاین توسط دانشجویان دوره کارآموزی بر سطح واکنش و یادگیری دانشجویان تاثیر مثبتی داشته است.
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ICGH 2025-046

Category: مهارت بالینی پایه ۳.۱

Relationship Between Dietary Diversity Score and Metabolic Syndrome

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Introduction: Dietary intake is increasingly recognized as a pivotal factor in the etiology of metabolic syndrome. A substantial body of evidence suggests a significant correlation between dietary quality indices—such as the Dietary Diversity Score (DDS)—and the occurrence of metabolic syndrome. This study aims to rigorously evaluate the impact of the Dietary Diversity Score and demographic variables on the manifestation of metabolic syndrome.

Materials and Methods: This case-control study included 175 individuals diagnosed with metabolic syndrome and an equal number of age-matched healthy controls (comprising both genders), aged between 20 and 65 years. Participants were recruited from various laboratories and the general population in Chalous, northern Iran. Dietary intake data were meticulously collected using a comprehensive Food Frequency Questionnaire (FFQ). Additionally, dietary quality indices, specifically the Dietary Diversity Score (DDS), were assessed using standardized methodologies.

Results: A difference in the likelihood of metabolic syndrome morbidity was observed when comparing the highest quartile (Quartile 4) of Dietary Diversity Score to the lowest (Quartile 1). However, after adjusting for confounding variables—including age, sex, dietary energy intake, education, occupation, and marital status—this difference did not reach statistical significance. No substantial variations were observed in the odds ratios across quartiles or models ($P\text{-trend} \geq 0.05$) for the Dietary Diversity Score.

Conclusion: No significant associations were found between the Dietary Diversity Score and the occurrence of metabolic syndrome.

Send Date: 2025/08/24

Code: DA-25133

ICGH 2025-047

Category: مهارت بالینی پایه ۳.۱

A Systematic Review on Clinical Trials related to Effects of Nigella Sativa on Blood Parameters and Anthropometric Indices in Adults

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Introduction: Nigella sativa has been used in traditional medicine and several studies have been performed in the last decades to reveal the effects of it on different medical disorders such as diabetes, dyslipidemia, hypertension and obesity.

To evaluate the effects of Nigella Sativa supplementation on Lipid profiles, glycemic control, blood pressure and some anthropometric indices in human.

Materials and Methods: A search on published studies is done by using the computer databases including pub-med, Google scholar, ISI (web of science) and Cochrane. MESH terms including: Nigella sativa, Black seed, Black cumin and kalonji. Initially 515 articles were extracted. 492 papers which were unrelated, review, animal studies, combined and duplicated studies were excluded, 23 articles were eligible for this review.

Results: After analyzing 23 articles (Including 1531 participants) these results are achieved: In 4 trial Nigella sativa reduced blood pressure, however in 5 trial could not. Reduction in glycemic parameters in 13 studies were significant but in 3 studies were not. Although weight and waist circumference in 2 articles were reduced significantly, in 6 articles were not. Fluctuation in Lipid profile in the articles was very controversial so in many of them were significant but in others were not.

Conclusion: In this systematic review revealed that Nigella sativa supplementation was slightly effective in improvement of various clinical and biochemical parameters in humans.

Send Date: 2025/11/14

Code: DA-25093

ICGH 2025-048

Category: 3.3 Pathogenesis: host factors/histo-pathology

Role of oral yeast in replenishing gastric mucosa with yeast and *H. pylori*

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Introduction: Relationship between oral and gastric yeasts and their role in colonization of *H. pylori* in stomach was studied.

Materials and Methods: Four groups of 221, 7, 44 and 10 patients were used for isolation of *H. pylori* and oral and gastric yeasts. In group one, gastric biopsies were used for isolation of *H. pylori* and yeast, urease activity and staining with Gram's, hematoxylin & eosin (H&E) and immunohistochemistry (IHC) methods. Gram-stained gastric biopsies were examined with light microscope to observe *H. pylori*, yeast and released extracellular vesicles (EVs). In other 3 groups, DNAs extracted from *H. pylori* and yeasts were used for amplification of *H. pylori*-specific genes; 16S rRNA, *VacA* (s1/s2), *vacA* (m1/m2), *cagA* and *jhp947*. Wet mounts of yeasts in group 2 were examined for observing intracellular bacteria and released EVs.

Results: Among 221 patients, 65 (29.3%) had oral yeasts (69.23% *C. albicans* and 30.76% *Candida* spp.) followed by *H. pylori* (35, 15.8%) and gastric yeasts (31, 14%) (67.75%

C. albicans and 32.25% *Candida* spp.) (p value > 0.05). Compared with gastric yeast, culture of oral yeast showed a significant correlation with positive results of *H. pylori* detected by IHC (10.3%), Gram stain (9%), RUT (6.3%), H&E (4.9%) and culture (4%) (p value < 0.05). Detection of *H. pylori* genes in yeast isolates from other 3 groups showed that oral and gastric yeasts carried similar *H. pylori* genes, thus could have a common source. Detection of *H. pylori* genes in different species of *Candida* showed that harboring *H. pylori* is not species- or site- specific. Microscopic examination of Gram-stained gastric biopsies and wet mount preparations of yeasts showed release of EVs that could carry *H. pylori*.

Conclusion: Oral yeast protects its intracellular *H. pylori* and releases it inside EVs to safely reach gastric mucosa. These results may clarify the environmental reservoir of *H. pylori* and explain bacterial reinfection after successful eradication.

Send Date: 2025/10/05

Code: DA-25020

ICGH 2025-049

Category: 3.5 Management strategies

Link Between *Helicobacter pylori* Infection and Colorectal Polyps in Northern Iran

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Introduction: *Helicobacter pylori* (*H. pylori*) is a common gastrointestinal pathogen implicated in gastric malignancies, and emerging evidence suggests a potential link to colorectal neoplasia. However, the association between *H. pylori* infection and colorectal polyps remains controversial. This study aimed to investigate the relationship between *H. pylori* infection and colorectal polyps in a Middle Eastern population with high background prevalence of both conditions

Materials and Methods: In this hospital-based cross-sectional analytical study, 382 adults undergoing both upper

endoscopy and colonoscopy at Razi Hospital in Rasht, Iran, were enrolled over a one-year period. *H. pylori* infection was detected via histopathological examination of gastric biopsies and stool antigen testing. Colorectal polyps were identified during colonoscopy and confirmed by histological evaluation. Demographic, clinical, and lifestyle data were collected. Logistic regression analyses were performed to assess the association between *H. pylori* infection and colorectal polyps, adjusting for age, sex, and other confounders

Results: The overall prevalence of *H. pylori* infection and colorectal polyps was 48.4% and 33.0%, respectively. No significant association was observed between *H. pylori* infection and colorectal polyps in unadjusted (OR=1.10; 95% CI: 0.72–1.68; P=0.667) or adjusted models (adjusted OR=1.19; 95% CI: 0.76–1.87; P=0.435). Polyp prevalence increased significantly with age (P for trend = 0.049) but did not differ by sex or *H. pylori* status.

Conclusion: This study found no significant association between *H. pylori* infection and colorectal polyps. Our findings highlight the need for further prospective and mechanistic research across diverse populations to clarify this relationship

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Code: DA-25064

ICGH 2025-050

Category: 3.5 گروه

***Syphacia obvelata* Antigens Alter the FOXP3/RORγt Expression Balance in Isolated Peripheral Blood Mononuclear Cells of IBD Patients**

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Introduction: Inflammatory Bowel Disease (IBD) arises

from disrupted interactions among intestinal microbiota, epithelial cells, and the immune system, which are influenced by genetic and environmental factors. A critical factor in IBD pathogenesis is the balance between FOXP3+ regulatory T cells (Tregs) and RORγt+ Th17 cells; a decreased Treg/Th17 ratio can lead to inflammation. *Syphacia obvelata* may help modulate immune responses by promoting Th2 responses and enhancing Treg populations, potentially impacting FOXP3 and RORγt expression and aiding IBD management.

Materials and Methods: In this study, peripheral Blood Mononuclear Cells (PBMCs) from 6 IBD patients were treated with *S. obvelata* antigens (ES-Ag, S-Ag, and ES/S-Ag) for 24 hours. Optimal concentrations and time points were determined via the MTT assay. Total RNA was extracted, cDNA was synthesized, and RT-qPCR was performed using FOXP3 and RORγt primers. The gene expression fold changes and FOXP3/RORγt ratios were compared to the control group.

Results: Results showed that FOXP3 expression was increased significantly after treatment with all *S. obvelata* antigens, including ES-Ag, S-Ag, and ES/S-Ag, whereas the expression of RORγt decreased significantly in just two groups, including ES-Ag and ES/S-Ag. Eventually, the FOXP3/RORγt gene expression fold change ratio was increased significantly after 24 hours of exposure to *S. obvelata* antigens

Conclusion: Our study indicates that the ES-Ag, S-Ag, and ES/S-Ag of *S. obvelata*, along with their combination, can increase the FOXP3/RORγt ratio in PBMCs from patients with IBD, suggesting anti-inflammatory effects. This finding offers hope that these antigens could be an eye-opener for developing future strategies for IBD treatment.

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Category: ژنتیک ۳.۵

Deciphering the Gene–Microbiome Axis in Inflammatory Bowel Disease

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Introduction: During the last two decades, appreciation of

the complementary roles played by host genetics and the gut microbiota in disease pathogenesis has transformed our understanding of diseases. Among such conditions, inflammatory bowel disease (IBD), including Crohn's disease (CD) and ulcerative colitis (UC), is considered a paradigm for chronic inflammation and gastrointestinal pathology mediated by complex gene–environment interactions. IBD is a multifactorial disease in which both genetic susceptibility and gut microbiota composition have been independently implicated as risk factors. However, the detailed mechanisms through which host genetics and microbiota interact to influence IBD severity remain incompletely understood. This research therefore aims to investigate the host–microbiota interactions that contribute synergistically to IBD development and severity, providing insights into how these factors influence disease outcomes.

Materials and Method: This review was conducted by analyzing research from databases including PubMed and Scopus, focusing on genetic and microbiota factors associated with IBD, encompassing both CD and UC. Studies published between 2010 and 2025 that investigated the interactions between host genetics and gut microbiota in disease development were included.

Results: Our findings reveal that IBD is characterized by profound host–microbiome disturbances shaped by key genetic pathways. Patients consistently showed marked depletion of SCFA-producing Firmicutes, including *Faecalibacterium prausnitzii* and *Roseburia*, along with reduced abundance of major Bacteroidetes taxa. These shifts were accompanied by a notable expansion of Proteobacteria, particularly Enterobacteriaceae, and an accumulation of pro-inflammatory metabolites, including succinate and hydrogen sulfide, indicating a metabolically inflammatory microbial profile.

Genetic variants across multiple functional groups—including innate immune sensing (NOD2, TLRs, CLEC7A), autophagy machinery (ATG16L1, ATG5, IRGM, CARD9), epithelial barrier and glycosylation pathways (FUT2, MUC2, MAN2A1), inflammatory signaling (IL23R, TNFSF15, HLA-DQA1), and metabolite transport (SLC22A5)—were strongly associated with these microbial shifts.

These combined alterations weaken epithelial integrity by impairing tight junctions and mucosal barrier repair, processes strongly influenced by genes such as NOD2,

ATG16L1, and IL23R. Reduced SCFA-producing bacteria further compromise epithelial energy supply and anti-inflammatory signaling, while risk variants in immune-regulatory genes trigger exaggerated microbial sensing and overactivation of inflammatory pathways (e.g., NF- κ B and Th17). The expansion of Proteobacteria and accumulation of pro-inflammatory metabolites amplify this cycle of dysbiosis and immune dysregulation, creating a self-reinforcing gene–microbiome loop that drives mucosal injury and contributes directly to IBD pathogenesis.

Conclusion: Genetic variation in the host is a major determinant of gut microbiota composition in IBD and significantly influences disease severity and progression. Elucidating these host–microbiota interactions may guide personalized therapeutic strategies, including microbiota-targeting interventions, dietary modulation, and precision medicine. Integrating genetic profiling with microbiome analysis could enable predictive biomarkers for selecting optimal treatments, ultimately improving disease management and patient outcomes.

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Code: DA-25026

ICGH 2025-052

Category: مدیریت بیماریهای بدخیم ۳۶

Impact of primary tumor size on survival of rectal cancer: a retrospective cohort study

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Introduction: Tumor extension, as reflected by T classification, is a key prognostic factor in rectal cancer. However, the prognostic significance of the actual tumor size, particularly maximum diameter, remains less clear. This study aimed to evaluate the impact of primary tumor size on long-term survival in patients with rectal cancer (RC) undergoing curative surgery.

Materials and Methods: A retrospective analysis was conducted on 182 consecutive RC patients who underwent curative surgical resection. Tumor size, measured with a hand ruler during macroscopic pathological examination, was analyzed as a categorical variable. Receiver-operating characteristic (ROC) curve analysis was applied to determine the optimal cutoff value—defined as the maximum sum of

sensitivity and specificity—for prognostic stratification. Kaplan–Meier survival curves and log-rank tests were used to assess the association between tumor size and overall survival (OS). Statistical significance was set at $P < 0.05$.

Results: The cohort included 101 males (55.5%) and 81 females (44.5%) with a mean age of 57.8 ± 14 years. ROC analysis identified an optimal tumor size cutoff of 5 cm (AUC = 0.61, sensitivity = 61.0%, specificity = 56.5%, Youden index = 0.17) (Fig1). Based on this threshold, patients were categorized into ≤ 5 cm and >5 cm groups. The median follow-up was 38 months (range 1–120 months), during which 90 patients (49.5%) died. One-, three-, and five-year OS rates for tumors ≤ 5 cm were 92%, 65%, and 53%, respectively, compared with 74%, 52%, and 40% for tumors >5 cm ($P = 0.02$) (Fig2).

Conclusion: Primary tumor size is an independent prognostic factor for OS in rectal cancer. Patients with tumors ≤ 5 cm demonstrated significantly better survival outcomes following curative surgery. Incorporating tumor size into prognostic assessment may improve risk stratification in RC management.

Keywords: rectal cancer, overall survival, tumor size, prognostic factor.

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ICGH 2025-053

Category: مدیریت بیماریهای بدخیم ۳.۶

Impact of treatment strategies on disease-free survival in patients with locally advanced rectal cancer

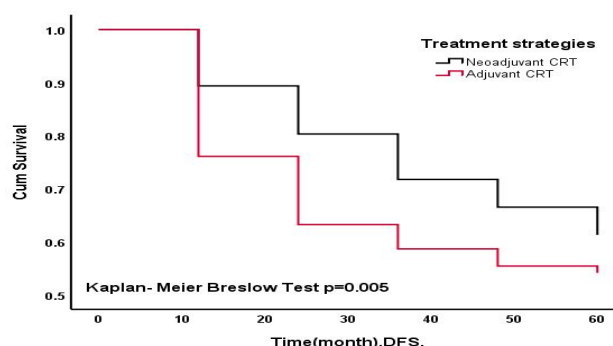
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Introduction: For patients with locally advanced rectal cancer (LARC), neoadjuvant chemoradiotherapy (NCRT) followed by surgery and adjuvant chemotherapy (ACRT) has long been the standard treatment. Disease-free survival (DFS) is a critical endpoint that captures the time to recurrence, either local or distant, or death from any cause. This study evaluated the impact of different treatment strategies on DFS in patients with LARC.

Materials and Methods: We retrospectively reviewed 590 patients with LARC, aged 18 years or older, treated between 2007 and 2017. Eligible tumors were located within 12 cm of the anal verge. Patients were categorized into two groups: those who received NCRT (n=269) and those who received ACRT (n=321). DFS at 1, 3, and 5 years was analyzed using Kaplan–Meier estimates, with log-rank and Breslow tests applied for comparisons.

Results: The overall median DFS was 79.2 months. Patients in the NCRT group achieved a longer median DFS (75.4 months) compared with those in the ACRT group (68.2 months). For the entire cohort, 1-, 3-, and 5-year DFS rates were 83%, 65%, and 58%, respectively. When stratified by treatment type, DFS rates were higher in the NCRT group (89%, 72%, and 61%) compared with the ACRT group (76%, 59%, and 54%) ($p=0.005$, Breslow test) (Figure 1).



Conclusion: our findings suggest that NCRT provides a meaningful survival advantage over ACRT in patients with LARC, highlighting its value as the preferred treatment strategy in this setting.

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ICGH 2025-054

Category: متابولیک / اختلالات ژنتیکی ۳.۷

External Validation of Cardiovascular Risk Assessment Tools in Individuals with Metabolic Dysfunction–Associated Steatotic Liver Disease (MASLD): A Prospective Cohort Study

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ICGH 2025-055

Category: متابولیک / اختلالات ژنتیکی ۳.۷

مقایسه ی شاخص غیر تهاجمی فیبروز کبدی (FIB-4 و APRI) در بیماران مبتلا به کبد چرب غیر الکلی در افراد مبتلا و غیر مبتلا به دیابت مراجعه کننده به کلینیک بیمارستان علی ابن ابیطالب زاهدان در سال ۱۴۰۱-۱۴۰۲

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Introduction: The present study was conducted to evaluate the external validity of various cardiovascular disease (CVD) risk assessment tools in predicting CVD events among individuals with metabolic dysfunction associated steatotic liver disease (MASLD).

Materials and Methods: The Amol prospective cohort study spanned a follow-up period of seven years, from 2009 to 2010 to 2016–2017. A total of 1,431 individuals aged 40–75 years were included. The 10-year cardiovascular risk was estimated for each participant using four risk assessment tools: the Pooled Cohort Equations of the American College of Cardiology/American Heart Association (ACC/AHA), the Systematic Coronary Risk Evaluation (SCORE) equations, the Framingham General Cardiovascular Risk Profile, and the SCORE2 equations. Receiver Operating Characteristic (ROC) curves were used to assess the discrimination ability of these tools.

Results: The ACC/AHA tool demonstrated the highest predictive ability for both fatal CVD events (AUC: 0.92, 95% CI: 0.88–0.97 for men; AUC: 0.87, 95% CI: 0.79–0.96 for women) and composite CVD events (AUC: 0.68, 95% CI: 0.62–0.75 for men; AUC: 0.79, 95% CI: 0.72–0.85 for women).

Conclusion: Based on these findings, cardiovascular risk assessment tools, particularly the ACC/AHA tool, can be applied in clinical settings to evaluate the future risk of CVD events in women with MASLD. However, the SCORE equations also exhibited excellent predictive ability for fatal cardiac events, requiring fewer variables.

زمینه و هدف: دیابت به عنوان یک فاکتور ثابت شده در زمینه بالابردن درگیری کبد و کمک کننده به پیشرفت کبد چرب غیر الکلی است. از طرفی به نظر می رسد شاخص های FIB-4 و APRI ارزش تشخیصی در زمینه تشخیص زودرس فیبروز کبدی داشته باشند. بنابراین هدف از مطالعه حاضر مقایسه شاخص های FIB-4 و APRI در بیماران مبتلا به کبد چرب در افراد مبتلا و غیر مبتلا به دیابت بود.

روش بررسی: در این مطالعه توصیفی تحلیلی تعداد ۸۲ نفر شامل ۳۰ بیمار مبتلا به دیابت و ۵۲ بیمار غیر دیابتیک در کلینیک بیمارستان امام علی شهر زاهدان در سال ۱۴۰۱ تا ۱۴۰۲ به روش آسان و در دسترس انتخاب و مورد بررسی قرار گرفتند. روش جمع آوری داده ها مشاهده و استفاده از پرونده ها و ثبت در فرم اطلاعاتی بود. داده ها پس از کد گذاری، وارد نرم افزار SPSS.۲۲ شد و با استفاده از آزمون من ویتنی و مجذور کای تحلیل شد.

یافته ها: میانگین سنی کل بیماران $43/22 \pm 10/9$ سال بود. از نظر توزیع جنسی ۳۴ نفر (۴۱/۵ درصد) مرد و ۴۸ نفر (۵۸/۵ درصد) زن بودند. آزمون من ویتنی نشان داد که توزیع متغیرهای ALT، $P=0.33$ و AST $P=0.38$ و FIB-4 $P=0.298$ و APRI $P=0.37$ و توزیع سطح پلاکت $P=0.044$ بین دو گروه متفاوت بوده و میزان این شاخص در گروه دیابتیک بالاتر از گروه غیر دیابتیک است.

نتیجه گیری: این مطالعه نشان داد که شاخص FIB-4 پیشگویی کننده فیبروز در بیماران دیابتی مبتلا به کبد چرب غیر الکلی نیست ولی شاخص APRI می تواند به عنوان شاخص مرتبط با دیابت در افراد مبتلا به کبد چرب غیر الکلی ارزش تشخیصی داشته باشد.

Send Date: 2025/10/04

Code: DA-25143

ICGH 2025-056

Category: عوارض بعد از جراحی ۴.۱۴

Endoscopic Pigtail Drain Intervention for Gastric Fistulas Following Sleeve Gastrectomy

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Introduction: Gastric fistula is a severe complication after sleeve gastrectomy, with an incidence ranging from 0.5% to 5.3%. Endoscopic pigtail drain placement has emerged as a minimally invasive alternative for managing these fistula. This study investigated the clinical outcomes of endoscopic pigtail drain placement for the management of gastric fistulas following sleeve gastrectomy.

Materials and Methods: This prospective interventional study was performed using data from patients who underwent pigtail drain placement. Both descriptive and inferential statistical analyses were conducted to evaluate fistula closure rates, incidence of complications, healing time, need for additional interventions, and recurrence rates

Results: The study cohort comprised 30 patients with a mean age of 34.9 ± 9.15 years, ranging from 17 to 51 years. The mean body mass index (BMI) was 38.3 ± 4.1 kg/m², with individual values ranging from 29 to 43 kg/m. one-third of the patients (10/30, 33.3%) had no significant comorbidities. Non-alcoholic fatty liver disease (NAFLD) was present in 8 patients (26.7%), while diabetes mellitus (DM) was observed in 7 patients (23.3%). A combination of NAFLD and DM was identified in 2 patients (6.7%), and a more complex comorbidity profile including DM, hypertension (HTN), and NAFLD was seen in 2 patients (6.7%). Additionally, one patient (3.3%) had both DM and NAFLD. The majority of gastric fistulas were located in the upper region, with 27 patients (86.66%) presenting with fistulas confined to this area. Three patients (10.0%) had fistulas extending from the upper to the middle portion of the stomach. The mean fistula size was 9.4 ± 2.7 mm, with a median size of 10 mm and a range of 5 to 16 mm. leakage occurred in only 6.67% of patients, corresponding to two fistulas located in the upper and middle regions, both of which had a size greater than 15 mm. The readmission rate was approximately 20%,

Conclusion: Endoscopic pigtail catheter placement

is a safe and effective minimally invasive option for managing gastric fistulas after sleeve gastrectomy. In our study, the procedure achieved high rates of fistula closure with few complications, even in patients with metabolic comorbidities such as diabetes and non-alcoholic fatty liver disease. Smaller fistulas in the upper portion of the stomach responded particularly well, highlighting the importance of fistula characteristics in guiding treatment.

Although higher BMI was modestly associated with longer closure times, it was not a strong predictor on its own. In contrast, the duration of pigtail drain placement showed a strong correlation with healing time, reflecting fistula complexity and the need for careful individualized follow-up. Overall, these findings support early endoscopic pigtail drainage as a first-line approach, promoting faster recovery, shorter hospital stays, and reducing the need for surgical intervention

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ICGH 2025-058

پانکراتیت ۴.۹

Prevalence and Clinical Correlates of SPINK1 and CFTR Mutations in Iranian Patients with Chronic Pancreatitis

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Introduction: In cases of chronic pancreatitis, a set of behavioral, genetic, and environmental factors are involved. The SPINK1 and CTFR genes are important genetic factors, but they might have different patterns in different regions. There are only few studies conducted to investigate the prevalence of these mutations, especially in Iran. In this study, we determined the prevalence of mutations in SPINK1 and CFTR in patients with chronic pancreatitis in an Iranian referral hospital.

Materials and Methods: A total of 56 patients diagnosed with chronic pancreatitis (based on the criteria of the American Pancreatic Association) were included in this cross-sectional study. Using specific primers for the CFTR

exon 11 and SPINK1 exon 3, two conventional PCRs were performed, and products were examined by nucleotide sequencing. The raw data were edited with bioinformatics software against the reference sequence. Mutated samples were added to the patient data file and analyzed with the rest of the variables in SPSS software.

Results: Among the 56 patients, the average age $\pm$ SD of the patients was 48.1 $\pm$ 14.9 years, 20 were women (35.7%), 44 (78.6%) were ever-smokers and 25 people (44.6%) had a history of long-term alcohol consumption. According to the results of mutation analysis, seven people (12.5%) had CFTR gene mutation (F508del and Gly469Asp), three people (5.4%) had SPINK1 gene mutation (S34N), and one person (1.8%) had both CFTR and SPINK1 gene mutation. The average age and other demographical data of mutated people were not statistically different from other patients. CFTR mutation was observed more in men (85.7%), smokers (85.7%), with gallstones (57.1%), and in people with SPINK1 mutation, it was seen more in ever-smoking patients, diabetics, and those with gallstones, and family history of acute pancreatitis (2/3; 66.7%).

Conclusion: We observed S34N and F508del mutations in the SPINK1 and CFTR genes are associated with chronic pancreatitis, which is in agreement with previous studies. The younger age, smoking, gallstone, and diabetes are probable risk factors for chronic pancreatitis. The limited sample size, lack of a control group, and small number of examined exons may affect our findings and significant results.

Send Date: 2025/11/08

Code: DA-25121

ICGH 2025-059

Category: مطالعات پیامد ۴.۱

Clinical Outcomes of Telemedicine in the Management of Chronic Liver Disease: A Systematic Review and Meta-Analysis

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Introduction: Chronic liver disease (CLD) requires continuous multidisciplinary care, which is often limited by geographical and resource constraints. Telemedicine has emerged as a potential solution to improve disease monitoring and accessibility of hepatology care. This meta-analysis aimed to evaluate the clinical outcomes associated with telemedicine-based interventions in the management

of CLD.

Materials and Methods: A systematic search was conducted across PubMed, Embase, and the Cochrane Central Register of Controlled Trials (CENTRAL) up to November 2025. Eligible randomized and observational studies comparing telemedicine interventions with standard in-person care among adults with CLD were included. Data were extracted following PRISMA guidelines, and pooled analyses were performed using a random-effects model. Primary outcomes included all-cause hospitalization and mortality; secondary outcomes included treatment adherence, patient satisfaction, and quality of life.

Results: Fourteen studies encompassing 6,482 patients were included. Compared with standard care, telemedicine significantly reduced all-cause hospitalizations (pooled RR = 0.78; 95% CI 0.66–0.91; p = 0.002) and improved medication adherence (SMD = 0.42; 95% CI 0.21–0.63; p < 0.001). No significant difference was found in overall mortality (RR = 0.95; 95% CI 0.83–1.10). Subgroup analyses showed stronger effects in cirrhosis and post-transplant populations. Heterogeneity was moderate (I² = 47%), and publication bias was low.

Conclusion: Telemedicine offers measurable benefits in managing chronic liver disease, particularly by reducing hospitalizations and enhancing adherence without compromising safety. Integrating tele-hepatology into standard care could substantially improve accessibility and efficiency of liver disease management worldwide.

Send Date: 2025/11/06

Code: DA-25084

ICGH 2025-060

Category: مطالعات پیامد ۴.۱

Clinical Outcomes of Telemedicine in the Management of Chronic Liver Disease: A Systematic Review and meta analysis

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Introduction: Chronic liver disease (CLD) requires continuous multidisciplinary care, which is often limited by geographical and resource constraints. Telemedicine has emerged as a potential solution to improve disease monitoring and accessibility of hepatology care. This meta-analysis aimed to evaluate the clinical outcomes associated with telemedicine-based interventions in the management of CLD.

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Conclusion: Telemedicine offers measurable benefits in managing chronic liver disease, particularly by reducing hospitalizations and enhancing adherence without compromising safety. Integrating tele-hepatology into standard care could substantially improve accessibility and efficiency of liver disease management worldwide.

Send Date: 2025/10/01

Code: DA-25100

ICGH 2025-061

Category: تشخیص و پیگیری ۴.۵

بررسی میزان شیوع ضایعات پره نئوپلاستیک در مبتلایان به کولیت اولسراتیو طول کشیده

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زمینه و هدف: افراد متخصص پیشنهاد انجام کولونوسکوپی سریال همراه با بیوپسی های غیر هدفمند برای یافتن دیسپلازی از لحاظ طبقه بندی بیماران کولیت اولسراتیو از نظر ریسک ایجاد کنسر کولورکتال را داده اند که هدف از آن تشخیص به موقع دیسپلازی و ارجاع به موقع بیماران جهت درمان در بیماران کولیت اولسراتیو است. **روش بررسی:** جمعیت هدف بیماران کولیت اولسراتیو تشخیص داده شده با علائم و نشانه های بیماری که در صورت درگیری کامل کولون ۸ سال و در صورت درگیری کولون سمت چپ ۱۰ سال از تشخیص بیماری گذشته است. افراد دارای معیارهای ورود به مطالعه تحت کولونوسکوپی و اخذ بیوپسی های متعدد قرار گرفتند. نمونه گیری طبق گایدلاین American Gastroenterological Association برای کشف دیسپلازی در بیماران IBD انجام شد.

طبق این گاید لاین: بیوپسی غیر هدفمند وسیع یعنی ۴ عدد بیوپسی از هر ۱۰ سانتی متر در مناطقی که توسط کولیت اولسراتیو درگیر بوده انجام شد حداقل ۳۲ عدد بیوپسی در هر کولونوسکوپی اخذ شده و در ۶ ظرف جدا نمونه ها ارسال شدند. بیوپسی هدفمند از ضایعات مخاطی غیر نرمال علاوه بر بیوپسی های غیر هدفمند صورت گرفت **یافته ها:** بیمار تحت کولونوسکوپی قرار گرفت ۵۲ بیمار زن و ۴۸ بیمار مرد بودند. ۷۸ بیمار درگیری pancolitis و ۲۲ بیمار درگیری left colitis داشتند. در مجموع ۳۳۲۴ نمونه و به طور متوسط ۳۷.۲۴ نمونه اخذ شد. ۶۱ بیمار کولونوسکوپی نرمال (mayo endoscopic score 0) و ۳۹ بیمار ۱،۲ mayo score داشتند. در پاتولوژی ۵۶ بیمار در فاز رمیشن (quiescent) بودند متوسط سن بیماران در این مطالعه 44.50 ± 13.22 و متوسط زمان تشخیص 14.53 ± 4.40 سال و متوسط زمان آخرین کولونوسکوپی 3.90 ± 1.88 سال بود در مطالعه ما میزان شیوع ضایعات پره نئوپلاستیک در مبتلایان به کولیت اولسراتیو طول کشیده ۱۲ درصد بود. **نتیجه گیری:** شیوع دیسپلازی در مطالعه ما ۱۲٪ بود که مشابه با اکثر مطالعات انجام گرفته در دیگر نقاط جهان بود در مطالعه ی ما مهمترین فاکتور در افزایش ریسک ایجاد دیسپلازی درگیری روده بالای ۲۰ سال بود

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Code: DA-25070

ICGH 2025-062

Category: تشخیص و پیگیری ۴.۵

Identification of Crucial NET-Related Genes and Diagnostic Markers in Ulcerative Colitis

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Introduction: Ulcerative colitis (UC) is a chronic inflammatory bowel disease (IBD) characterized by inflammation of the colon. Neutrophil extracellular traps (NETs) have been recognized as important contributors to UC progression. This study aims to identify key genes involved in NET formation in UC and assess their potential as diagnostic biomarkers.

Materials and Methods: Gene expression profiles from colon biopsies of UC patients and healthy controls were obtained from the GSE224758 dataset. Differentially expressed genes (DEGs) were identified using the GEO2R tool with criteria of $p\text{-value} < 0.01$ and Log 2 fold change threshold ≥ 1 . A co-expression protein-protein interaction (PPI) network for the upregulated genes was constructed using the STRING database and analyzed with Cytoscape software to identify significant modules. Gene ontology (GO) and pathway enrichment analyses were conducted on genes within the largest module. Selected hub genes related to NET formation—FCGR3B, AQP9, FPR1, FPR2,

and NCF2—were validated by quantitative real-time polymerase chain reaction (qRT-PCR) using colon biopsy samples from UC patients, refractory UC patients, and healthy controls.

Results: The qRT-PCR validation confirmed increased expression of AQP9, FPR1, and FPR2 in both UC and refractory UC patients compared to healthy controls. Among these, AQP9 showed the most significant differential expression. It demonstrated high sensitivity and specificity in distinguishing UC patients from healthy individuals, suggesting strong potential as a diagnostic biomarker.

Conclusion: The study identifies AQP9, FPR1, and FPR2 as key genes involved in NET formation and UC pathogenesis. AQP9, in particular, shows promise as a diagnostic biomarker for UC. These findings highlight the role of NET-related pathways in UC and suggest they could be targeted for therapeutic strategies in disease management.

Send Date: 2025/09/06

Code: DA-25012

ICGH 2025-063

Category: سایر اختلالات کولون و آنورکتال ۴.۶

بررسی ارتباط سندرم روده تحریک پذیر با کنترل دیابت

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زمینه و هدف: با توجه به شیوع بالای دیابت در جامعه و نیز شیوع بالای عوارض گوارشی و در جمعیت بومی استان کردستان شیوع عوارض گوارشی دیابت تاکنون بررسی نشده، پژوهش حاضر با هدف بررسی ارتباط سندرم روده تحریک پذیر (IBS) با کنترل دیابت در بیماران دیابتی نوع دو مراجعه کننده به درمانگاه داخلی و غدد بیمارستان های کوثر و توحید سنجند در سال ۱۴۰۱ طرح ریزی و انجام شد. **روش بررسی:** این مطالعه بصورت توصیفی تحلیلی مقطعی بر روی بیماران دیابتی نوع دو انجام گرفت. ابزار مورد استفاده جهت گردآوری داده ها یک چک لیست پژوهشگر ساخته دو بخشی شامل اطلاعات دموگرافیک، اطلاعات مربوط به بیماری بود. هر یک از متغیرهای مربوط به شکایات گوارشی به صورت مداوم (کمینه یک روز در هفته) و متناوب (کمتر از یک روز در هفته) تعریف شدند. لازم به ذکر است که؛ محرمانگی داده های مطالعه حفظ شد و همچنین داده های مطالعه صرفاً در راستای اهداف پژوهشی استفاده می شود. **یافته ها:** میانگین مدت ابتلا به دیابت ۱۱.۱۵ سال (انحراف معیار ۶.۹۱) بود. شیوع IBS در بیماران دیابتی: ۳.۵۵٪

شیوع IBS در بیماران با دیابت کنترل نشده: ۹.۵۸٪

شیوع IBS در بیماران با دیابت کنترل شده: ۱.۵۵٪

۷۱٪ بیماران ارتباط بین نوسانات قند خون و تشدید علائم IBS را گزارش کردند، ۷.۹۴٪ بیماران حداقل یک عارضه میکروواسکولار داشتند. نوروپاتی دیابتی با ۳.۶۳٪ شایع ترین عارضه بود.

نتیجه گیری: اگرچه شیوع IBS در بیماران دیابتی بالاتر از جمعیت عمومی است، ارتباط معناداری بین کنترل گلیسمیک و شیوع IBS، مشاهده نشد. با این حال

کنترل مناسب قند خون و تغییرات رژیم غذایی میتواند در مدیریت علائم IBS مؤثر باشد.

Send Date: 2025/07/16

Code: DA-25117

ICGH 2025-064

Category: سایر اختلالات کولون و آنورکتال ۴.۶

Changes in a Gut Bacteriophage in Irritable Bowel Syndrome

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Introduction: Irritable bowel syndrome (IBS) is a common functional gastrointestinal disorder linked to gut microbiota alterations. This study aimed to evaluate the abundance of crAssphage in IBS patients compared to healthy controls using quantitative PCR (qPCR).

Materials and Methods: The study comprised 38 patients with irritable bowel syndrome (IBS) and 40 healthy control subjects. All participants underwent clinical and laboratory assessments. Stool samples were collected from both IBS patients and healthy controls, and the abundance of crAssphage was determined using quantitative PCR (qPCR).

Results: Quantitative PCR analysis showed that the abundance of crAssphage was lower in patients with irritable bowel syndrome (IBS) compared to healthy control subjects; however, the difference was not statistically significant ($p > 0.05$).

Conclusion: Although the abundance of crAssphage tended to be lower in IBS patients, the difference was not statistically significant. These findings suggest that crAssphage may be affected in IBS, but further studies with larger sample sizes are needed to clarify its potential role in gut microbial alterations associated with the disorder.

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Code: DA-25082

ICGH 2025-065

Category: سمیت کبدی / الکلی - بازسازی - آپوپتوز ۴.۷

Ciprofloxacin and the Liver-Gut Axis: Implications for NAFLD Progression

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is a prevalent metabolic disorder influenced by genetic, dietary, and environmental factors. Antibiotic exposure, particularly to fluoroquinolones like ciprofloxacin, may

disrupt gut microbiota, contributing to hepatic steatosis via inflammation and altered metabolic signaling.

Objective: This abstract provides a review of the current evidence on ciprofloxacin's potential role in NAFLD development and progression, highlighting underlying mechanisms and research gaps.

Materials and Methods: PubMed, NCBI, and relevant review articles up to 2025 were examined. Observational studies, animal models, and mechanistic research linking ciprofloxacin, gut dysbiosis, and NAFLD were included.

Results: Population-based studies suggest a modest association between fluoroquinolone exposure and NAFLD risk (adjusted OR $\approx$ 1.38), though ciprofloxacin-specific data remain limited. Mechanistically, ciprofloxacin can induce gut microbiota alterations, reduce short-chain fatty acid-producing bacteria, and increase intestinal permeability, triggering inflammatory pathways that promote hepatic fat accumulation. Animal models further indicate that ciprofloxacin exposure can modify metabolic and histopathological liver markers, supporting a microbiome-mediated effect. Rare idiosyncratic hepatotoxicity events have also been reported, distinct from chronic NAFLD progression.

Conclusion: Evidence indicates a biologically plausible link between ciprofloxacin and NAFLD, primarily mediated via gut dysbiosis. Direct causality in humans is unproven, highlighting the need for longitudinal cohort studies and mechanistic investigations. Clinicians should consider individual metabolic risk factors when prescribing ciprofloxacin, balancing therapeutic benefits against potential hepatic effects.

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Code: DA-25049

ICGH 2025-066

Category: 5.1 Basic/pathogenesis/pathology/

Analysis of Escherichia coli Pathotypes in Stool Samples of Iranian Individuals with Ulcerative Colitis

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Introduction: Escherichia coli is a common intestinal bacterium, but certain pathotypes may contribute to inflammatory bowel disease (IBD). This study aimed to identify the pathotypes of E. coli isolated from Iranian patients with ulcerative colitis and explore their potential association with disease severity.

Materials and Methods: Stool samples were obtained from 38 Iranian patients with confirmed ulcerative colitis. Escherichia coli isolates were recovered and analyzed for different pathotypes using multiplex PCR with specific virulence gene markers. Clinical data, including disease severity, were collected to evaluate potential associations between E. coli pathotypes and disease outcome.

Results: Among the Escherichia coli isolates, the most prevalent pathotypes were enterotoxigenic (ETEC) and diffusely adherent (DAEC), while other pathotypes were detected less frequently. ETEC was more commonly recovered from patients with moderate to severe disease, indicating a possible association with disease progression. Although no statistically significant correlation was observed between specific pathotypes and overall disease severity, the predominance of ETEC and DAEC highlights their potential involvement in the clinical course of ulcerative colitis.

Conclusion: ETEC and DAEC are the dominant E. coli pathotypes in patients with ulcerative colitis and may contribute to disease severity. These findings highlight the potential role of specific E. coli pathotypes in the clinical course of the disease and support further research into targeted therapeutic strategies.

Send Date: 2025/08/21

Code: DA-25059

ICGH 2025-067

Category: 5.1 Basic/pathogenesis/pathology/

The Gut microbiomes and treatment-resistant ulcerative colitis: a case-control study using qPCR

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Introduction: The gut microbiome has been identified as a pivotal factor in ulcerative colitis (UC), given its role as

the main reservoir of microbes in the body. However, the role of the gut microbiome in patients with refractory UC is still significant, so this study aimed to further investigate the role of these bacteria in patients with refractory UC.

Materials and Methods: This case-control study was conducted on stool samples from four distinct groups: the first group comprised new patients diagnosed with ulcerative colitis (all of them had responded to treatment after follow-up) (N = 24); the second group consisted of patients with treatment-resistant ulcerative colitis (N = 23); the third group included first-degree relatives of group 1 patients (N = 24); and the fourth group consisted of first-degree relatives of group 2 patients (N = 23). The research tools employed in this study included a questionnaire, quantitative real-time PCR (qPCR) test, and culture on stool samples.

Results: The mean age of patients in groups 1 and 2 was 45.88 ± 18.51 and 41.30 ± 13.01 years, while the mean age of controls in groups 3 and 4 was 37.29 ± 9.62 and 40.96 ± 13.01 years, respectively. The findings indicated a statistically significant relationship ($P < 0.05$) between Groups 2 and 4 with respect to the *E. coli* and *Bifidobacterium* spp. microbial population. Additionally, a significant relationship was identified between the *Lactobacillus* spp., *Bifidobacterium* spp., and *Bacteroides* spp. microbial community between groups 1 and 2 ($P < 0.05$).

Conclusion: The findings of this study demonstrated that several intestinal microbiomes have a substantial impact on the management of ulcerative colitis. The results of this study may also lead to the identification of new therapeutic strategies that are based on regulating the gut microbiome. These strategies could include the use of fecal microbiome transplantation (FMT), probiotics, prebiotics, or specific bacteria-based therapies.

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Code: DA-25047

ICGH 2025-068

Category: 5.1 Basic/pathogenesis/pathology/

Phylogenetic characterization of *Escherichia coli* isolated from stool of Iranian ulcerative colitis patients

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Introduction: The contribution of *Escherichia coli* to ulcerative colitis development is still debated. This research focused on identifying the phylogenetic classifications of *E.*

coli strains obtained from Iranian patients with ulcerative colitis, aiming to determine whether any particular group correlates with the intensity of the disease.

Materials and Methods: Stool samples were collected from 38 Iranian patients diagnosed with ulcerative colitis. *Escherichia coli* isolates were recovered and classified into phylogenetic groups using multiplex PCR targeting specific genetic markers. Clinical data, including disease severity, were recorded to assess possible associations with phylogenetic groups.

Results: This study investigated the phylogenetic distribution of *E. coli* in Iranian patients with ulcerative colitis. The isolates were classified into groups A (23.7%), B1 (15.8%), B2 (34.2%), and E (10.5%). No statistically significant association was found between these phylogenetic groups and disease severity. These results indicate that although different *E. coli* phylogenetic groups are present in ulcerative colitis patients, their distribution does not appear to influence the clinical course of the disease.

Conclusion: *E. coli* isolates from Iranian ulcerative colitis patients exhibited varied phylogenetic groups without significant association to clinical severity, highlighting the complexity of their role in the disease.

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Code: DA-25094

ICGH 2025-069

Category: ۵.۱۵ اختلالات عملکردی دستگاه گوارش

مقایسه شیوع سندرم متابولیک در بیماران دارای و بدون سندرم روده تحریک پذیر (IBS) مراجعه کننده به کلینیک تخصصی گوارش در شهر یزد و بررسی توزیع MS بر اساس سن و جنس مهسا اکبری^۱، محمدحسین آنتیک چی^۱

^۱ دانشگاه علوم پزشکی یزد

زمینه و هدف: رابطه بین سندرم روده تحریک پذیر (IBS) و سندرم متابولیک (MS) همچنان مورد مناقشه است. این مطالعه با هدف تعیین شیوع MS در بیماران دارای و بدون IBS که به کلینیک گوارش مراجعه می کنند و بررسی تفاوت های MS بر اساس سن و جنس انجام شد.

روش بررسی: مطالعه مورد-شاهدی در سالهای ۲۰۲۳-۲۰۲۴ با ۲۵۱ بیمار در کلینیک گوارش یزد انجام شد. IBS با معیارهای IV Rome و MS با معیارهای IDF تشخیص داده شد. داده ها با پرسشنامه ساختاریافته، اندازه گیری های آنتروپومتریک و آزمایش های بیوشیمیایی جمع آوری شدند. تحلیل ها با استفاده از نرم افزار SPSS انجام شد و شامل آمار توصیفی، آزمونهای کای-دو، آتست مستقل، ANOVA و رگرسیون لجستیک بود. ($\alpha = 0.05$) همچنین اخذ تأییدیه اخلاقی و رضایت آگاهانه از شرکت کنندگان به عمل آمد.

یافته ها: ۶۲.۵٪ از شرکت کنندگان IBS داشتند و ۲۸.۷٪ MS داشتند. شیوع MS در گروه های دارای IBS و فاقد IBS به طور معناداری تفاوت نداشت. ($P < 0.05$) MS در زنان و افراد مسن به طور معناداری بالاتر بود ($P < 0.05$) بیماران IBS وزن و BMI پایین تری داشتند ($P < 0.01$) در حالی که افراد مبتلا به MS BMI بالاتری داشتند ($P < 0.05$) بین IBS و فشار خون، دیابت و اختلالات چربی خون رابطه معناداری مشاهده نشد. **نتیجه گیری** IBS به تنهایی پیش بینی کننده قوی MS نیست؛ اما عوامل دموگرافیک مانند سن و جنس نقش مهمی ایفا می کنند و وزن BMI با وضعیت متابولیکی مرتبط است. غربالگری منظم و مداخلات ترکیبی تغذیه ای، روانی و دارویی در بیماران IBS به ویژه در زنان و سالمندان می تواند به پیشگیری یا کاهش اختلالات متابولیکی کمک کند.

Send Date: 2025/10/06

Code: DA-25008

ICGH 2025-070

Category: 5.2 Etiology/epidemiology

Sleep Quality and Associated Factors in Patients with Inflammatory Bowel Disease: A Cross-Sectional Study

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Introduction: A well-balanced sleep-wake cycle plays a vital role in maintaining immune health. Chronic inflammatory conditions, such as inflammatory bowel disease (IBD), often manifest as sleepiness and fatigue, which can significantly affect the progression of the disease. This study aimed to investigate the association between sleep quality and various factors in IBD patients

Materials and Methods: In this cross-sectional study conducted between 2021 and 2023, 307 patients with active and inactive IBD from Guilan Province were analyzed, including 257 with Ulcerative Colitis (UC) and 50 with Crohn's Disease (CD). Data were collected using standardized questionnaires, including the Pittsburgh Sleep Quality Index (PSQI), Generalized Anxiety Disorder-7 (GAD-7), and Patient Health Questionnaire-9 (PHQ-9).

Results: The mean age of participants was 45.4 ± 13.1 years; most participants (67.1%) were female. The mean global PSQI score was 3.09, indicating that 11.7% of patients experienced poor sleep quality. Notable correlations were

found between PSQI scores and GAD-7 ($r=0.158$, $P=0.005$) and PHQ-9 scores ($r=0.246$, $P<0.001$). Multivariable analysis revealed that each one-point increase in PHQ-9 score was associated with a 0.18-point increase in PSQI score ($P<0.001$), and patients with comorbidities had PSQI scores 1.32 points higher than those without ($P=0.043$).

Conclusion: The study highlights a notable prevalence of poor sleep quality among IBD patients, with important associations identified with psychological factors and comorbid conditions. These findings underscore the importance of addressing sleep disturbances in the comprehensive management of IBD, emphasizing the need for targeted interventions to improve sleep quality and overall patient well-being

Send Date: 2025/07/13

Code: DA-25061

ICGH 2025-071

Category: 5.2 Etiology/epidemiology

Evaluation of the validity and reliability of the Persian version of IBDcQ-8 questionnaire

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Introduction: The Inflammatory Bowel Disease control Questionnaire-8 (IBDcQ-8) consisting of 8 items, is a concise, patient-reported measure designed to capture the core domains of disease control and quality of life. The aim of this study was to evaluate the validity and reliability of the Persian version of the IBDcQ-8 in the Iranian IBD population.

Materials and Methods: A standardized forward-backward translation procedure was employed to adapt the questionnaire into Persian. Content validity was evaluated with through structured interviews with a panel of 10 evaluators. Construct validity was examined by structured interview and clinical visits of 101 patients. Patients' responses were compared with clinical global assessment, Harvey Bradshaw Index (HBI), partial Mayo score, IBDQ, and laboratory markers using Spearman's rank correlation. Test-retest reliability was evaluated by calculating the intraclass correlation coefficient (ICC) between the two subsequent interviews. A P-value < 0.05 was considered statistically significant.

Results: Half of subjects ($n=51$ (50.5%)) were female. The mean age was 38 years ($SD = 14$). Sixty-seven patients (66%) had UC, and the remainder had CD. IBDcQ-8

scores showed strong correlations with HBI and IBDQ, and moderate correlations with the partial Mayo score, CRP, and clinical evaluation at the first visit (P-value <0.05). Agreement was excellent for one-day follow-up (ICC = 0.82, 95% CI: 0.71–0.89, P < 0.001), and moderate for two-week follow-up (ICC = 0.61, 95% CI: 0.44–0.73, P < 0.001).

Conclusion: The Persian version of the IBDcQ-8 questionnaire demonstrated robust validity and reliability, supporting its usefulness for evaluating disease-specific quality of life in patients with IBD and its applicability in clinical trials, observational studies and real-world data such as Iranian Registry of Crohn's and Colitis.

Send Date: 2025/09/01

Code: DA-25083

ICGH 2025-072

Category: استراتژی های مدیریت ۵.۳

The Emerging Challenge of Early-Onset Colorectal Cancer: Are Current Screening Guidelines Sufficient?

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Colorectal cancer (CRC) is the third most commonly diagnosed malignancy and the second leading cause of cancer-related death worldwide. According to the Global Cancer Observatory (GLOBOCAN) 2020, over 1.9 million new cases and 935,000 deaths were attributed to CRC globally, reflecting its significant global burden. Current screening guidelines, including the 2018 update by the American Cancer Society (ACS), recommend initiating screening at age 45 for average-risk individuals and earlier for those with a positive family history. These changes were based on increasing trends in CRC incidence among younger adults in the United States and other high-income countries.

However, in clinical practice, we are encountering a growing number of patients diagnosed with CRC well before the recommended screening age—some as early as their late 20s or 30s—without classical risk factors such as family history, inflammatory bowel disease, or overt anemia. These patients often present with nonspecific gastrointestinal symptoms that may be easily overlooked. A growing body of case reports has documented the occurrence of CRC in adolescents and very young adults without any known familial predisposition, emphasizing the unpredictable nature of early-onset disease.

This alarming trend is supported by epidemiological

studies reporting a rising incidence of early-onset colorectal cancer (EOCRC), defined as diagnosis before age 50, particularly involving left-sided and rectal tumors. The underlying etiology remains unclear in many cases, though potential contributors include lifestyle factors, microbiome alterations, and unidentified genetic predispositions.

We propose that current screening guidelines, while based on the best available evidence, may not sufficiently account for this evolving risk profile. Until validated risk prediction tools incorporating nontraditional risk factors become widely available, we urge clinicians to maintain a high index of suspicion when evaluating young adults with persistent gastrointestinal symptoms. Early referral for colonoscopy in symptomatic individuals—even those under 40—may prove critical for timely diagnosis. We believe it is time to revisit and potentially revise existing screening frameworks to better capture this emerging at-risk population.

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Code: DA-25081

ICGH 2025-073

Category: استراتژی های مدیریت ۵.۳

When Test Results Do not Add Up: Case Series of Three Patients with Antibiotic-Resistant *Helicobacter pylori*, Negative Culture, and Positive Fecal Antigen Test

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Introduction: *Helicobacter pylori* is the predominant bacterial infection, impacting over fifty percent of the global population and exceeding ninety percent among Iranians. Its complications encompass gastritis, gastric ulcers, and, notably, gastric cancer. The increasing prevalence of *H. pylori* resistance to current pharmacological therapies underscores the necessity for research into novel treatments and finding alternative drugs and mechanisms for its eradication.

Materials and Methods: This study reports three cases of treatment-resistant *Helicobacter pylori* in which bacterial eradication was unsuccessful despite using FDA-approved regimens. The therapies administered to these individuals included bismuth-based quadruple therapy utilizing amoxicillin, bismuth-levofloxacin quadruple therapy, and bismuth-rifabutin quadruple therapy. In every case, following the administration of two or three lines of therapy, we saw negative culture findings alongside positive stool

antigen test results.

Results: The study found that, despite multiple quadruple regimens, *H. pylori* infections persisted in all third individuals, highlighting the ineffectiveness of current treatments. In this study, we used several methods to treat patients, including regular check-ups with endoscopies, four-drug treatments with tetracycline, and treatments with furazolidone.

Conclusion: To combat antibiotic resistance and *H. pylori* eradication, future studies should focus on molecular resistance profiles, new drug regimens, and adjuvant therapies.

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Code: DA-25130

ICGH 2025-074

Category: ۵.۳: استراتژی های مدیریت

Optimizing First-Line *H. pylori* eradication regimens: Superiority of High-Dose Triple Therapy over Concomitant Quadruple Therapy

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Introduction: *Helicobacter pylori* infection remains a major global health concern and is strongly associated with peptic ulcer disease, gastric MALT lymphoma, and gastric cancer. Increasing resistance to clarithromycin and metronidazole has significantly reduced the effectiveness of standard

concomitant quadruple therapy in many regions. In this context, optimizing acid suppression and utilizing amoxicillin in an appropriate time-dependent dosing schedule, in combination with bismuth, may offer an improved therapeutic strategy.

Materials and Methods: In this randomized clinical trial, treatment-naïve adult patients with confirmed *H. pylori* infection were assigned to one of two regimens.

1. High-Dose Triple Therapy for 14 days: Esomeprazole 40 mg, Amoxicillin 1 g, and Bismuth subcitrate 240 mg, three times daily.

2. Concomitant Quadruple Therapy for 12 days: Pantoprazole 40 mg, Amoxicillin 1 g, Clarithromycin 500 mg, and Metronidazole 500 mg twice daily.

Eradication was assessed at least eight weeks after treatment using stool antigen testing.

Adherence and adverse events were recorded. Analyses were conducted on both intention-to-treat (ITT) and per-

protocol (PP) bases.

Results: High-dose triple therapy demonstrated significantly superior efficacy and tolerability compared with concomitant quadruple therapy.

- Eradication Rate (PP): 95.8% in the triple therapy group vs. 74.3% in the concomitant therapy group ($p < 0.001$).

- Excellent Treatment Adherence: 94.0% vs. 53.4% ($p < 0.001$).

- Adverse Events: Significantly fewer and generally mild in the triple therapy group, compared with concomitant therapy group.

Conclusion: In this randomized clinical trial, the 14-day high-dose triple therapy regimen demonstrated a marked superiority over the commonly used 12-day concomitant quadruple therapy for first-line *H. pylori* eradication. The high-dose triple therapy achieved significantly higher eradication rates, both in intention-to-treat and perprotocol analyses, while also showing substantially fewer adverse effects and markedly better patient adherence. These findings reflect the pharmacologic advantage of enhanced acid suppression combined with time-dependent delivery of high-dose amoxicillin, which maintains sustained antibiotic concentrations in the gastric environment, independent of clarithromycin or metronidazole resistance patterns.

The improved tolerability and simplified regimen contributed to greater treatment continuity, which is a critical determinant of real-world eradication success. Importantly, by eliminating clarithromycin and metronidazole exposure, this regimen addresses the growing challenge of dual antibiotic resistance, which has significantly undermined the effectiveness of standard quadruple therapies in many regions.

Taken together, our results strongly support 14-day high-dose triple therapy as a more effective, safer, and more practical first-line empirical treatment option for *H. pylori* eradication, particularly in settings where resistance to clarithromycin and metronidazole is prevalent. Adoption of this regimen in clinical practice may improve treatment outcomes, reduce the burden of repeated therapy, and contribute to broader strategies aimed at mitigating antibiotic resistance.

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ICGH 2025-075

Category: 5.5 Treatment

Impact of IBD Medications During Pregnancy on Maternal and Child Health: A Systematic Review and Meta-Analysis

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Introduction: Inflammatory bowel disease (IBD) impacts pregnant women, raising concerns about medication safety. This systematic review and meta-analysis evaluated association of IBD medications with pregnancy and neonatal outcomes.

Materials and Methods: Major databases were searched up to June 9, 2025, for eligible cross-sectional, case-control, and cohort studies comparing pregnant IBD patients receiving IBD-related drugs with unexposed controls. Subgroup analyses were conducted by drug categories (biologics, immunomodulators, corticosteroids, 5-aminosalicylic acid (5-ASA), and a combination of biologics and immunomodulators).

Results: Thirty-three studies were included. Biologics increased risks of spontaneous abortion (OR = 1.59, 95% CI [1.07, 2.36]), preterm birth (OR = 1.23, [1.03, 1.48]), hypertension (OR = 1.91, [1.15, 3.17]), low birth weight (LBW) (OR = 1.32, [1.01, 1.74]), while reducing gestational diabetes (GD) (OR = 0.79, [0.67, 0.94]). Immunomodulators raised stillbirth risk (OR = 1.84, [1.26, 2.69]), while lowering GD (0.85, [0.74, 0.99]). Combination therapy increased preterm birth (OR = 1.46, [1.11, 1.91]) and congenital malformations (CMs) (OR = 1.57, [1.01, 2.43]). Corticosteroids raised preterm birth (1.76, [1.30, 2.37]) and LBW (OR = 1.93, [1.33, 2.81]), while reducing CMs (OR = 0.62, [0.42, 0.80]). 5-ASA increased still birth (OR = 5.26, [2.29, 12.05]). Overall, these medication groups increased preterm birth risk (OR = 1.72, [1.01, 2.93]). No significant relationship was found with small for gestational age (SGA), low Apgar score, newborn infections, antibiotic use, NICU admission, and hospitalization.

Conclusion: IBD medications in pregnancy are associated with varied perinatal outcomes depending on drug class. These findings highlight the importance of personalized treatments, balancing disease control and pregnancy safety.

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Code: DA-25107
ICGH 2025-076

Category: درمان ۵.۵

Long-Term Management of ulcerative colitis patients with Tofacitinib: A Real-World Study

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Introduction: Ulcerative Colitis (UC) is a chronic condition often requiring long-term treatment. Tofacitinib, an oral Janus kinase inhibitor, has demonstrated promise in clinical trials, but real-world data on its long-term safety and effectiveness remain limited. This study evaluated real-life outcomes of tofacitinib in UC patients.

Materials and Methods: We retrospectively analyzed 62 patients diagnosed with UC and treated with tofacitinib at Gastroenterology Clinic. Demographic data and treatment duration were recorded. Complications, including infections, disease flares, hospitalizations, and malignancies, were monitored. Disease activity and colon involvement were assessed before and after treatment

Results: The cohort comprised 58.5% males and 41.5% females, with a mean age of 47.7 ± 7.8 years and average disease duration of 11.9 ± 7.9 years. Tofacitinib treatment resulted in significant improvement: severe colon involvement decreased from 64.5% to 25.8%, while normal findings rose from 0% to 27.4%. Pancolitis cases declined from 46.8% to 14.5%, with normal colon involvement increasing from 0% to 35.5%.

The safety profile aligned with prior reports. CMV infection occurred in 5.6% of patients. Disease flares affected 46.8%, and 38.7% were hospitalized. Malignancies were identified in 12.9%, including adenocarcinoma, dysplasia, renal cell carcinoma, and cholangiocarcinoma

Conclusion: Tofacitinib is effective for long-term management of UC patients, reducing disease severity and colon involvement. Though generally well tolerated, adverse events like CMV infection and malignancies highlight the need for regular monitoring to mitigate risks during prolonged therapy.

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Code: DA-25031
ICGH 2025-077

Category: درمان ۵.۵

Mebendazole as an Adjunct Therapy with Mesalamine to Increase Efficacy and Maintenance Therapy for Ulcerative Colitis Patients: A Pilot Study

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Introduction: Ulcerative colitis (UC) is an inflammatory disorder of the large intestine characterized by inflammation in the mucosal tissue of the colon and rectal area. In the present pilot study, we assessed the efficacy of combining mebendazole with mesalamine in moderate UC patients.

Materials and Methods: In the present exploratory pilot trial, designed to assess both the safety and preliminary efficacy of mebendazole, a total number of 10 moderate UC patients with Mayo scores ranging from 6 to 9 were enrolled. The participants were divided into two groups at random and were treated with 3 gr mesalamine per day plus 300 mg/day mebendazole or matching placebo for 3 months. The efficacy of treatment was assessed in 8 and 12-week timelines with Mayo score. Moreover, the safety of the given dose of mebendazole in UC patients was also assessed by laboratory tests.

Results: The addition of mebendazole to the mesalamine in the treatment regimen of patients suffering from UC caused a greater decrease in the Mayo score of the patients compared to the mesalamine monotherapy at 8 and 12-week timelines. Despite this trend, statistical significance was not reached, likely due to the limited sample size. Moreover, all the patients in the mebendazole group experienced clinical remission at the 12-week timeline, but 4 of 5 patients in the placebo group experienced a clinical remission state, indicating that mebendazole caused a 20% increase in the clinical remission rate. As indicated by the results of the laboratory tests, the given dose of mebendazole showed no toxicity in the patients.

Conclusion: The addition of mebendazole to mesalamine for UC treatment appears to be a safe and potentially beneficial approach to enhance mesalamine's efficacy and reduce clinical symptoms. However, given the small sample size and the short study duration, further large-scale, long-term trials are necessary to validate these

preliminary findings.

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ICGH 2025-078

Category: درمان ۵.۵

Vedolizumab as a Treatment Option for Anti-TNF Refractory UC and CD: A 30-Week Clinical Evaluation

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Introduction: Ulcerative colitis (UC) and Crohn's disease (CD) are chronic, relapsing inflammatory bowel diseases with increasing global incidence, particularly in developing countries. Despite various treatment options, many patients do not respond or face treatment-related issues. Vedolizumab, a gut-selective monoclonal antibody targeting $\alpha 4\beta 7$ integrin, has shown promising results, though data from Middle Eastern populations is limited.

This study aimed to evaluate the efficacy and safety of Vedolizumab induction therapy in moderate-to-severe UC and CD patients who previously failed anti-TNF treatment. **Materials and Methods:** This prospective, single-center, open-label study was conducted at the Digestive Disease Research Institute in Tehran, Iran, from March 2023 to September 2024. Adult patients with active UC or CD, unresponsive to conventional or anti-TNF therapies, received Vedolizumab (300 mg at weeks 0, 2, and 6), followed by maintenance infusions every 8 weeks. Dose intensification to every 4 weeks was allowed for inadequate responders. Clinical evaluations, including disease activity scores, inflammatory markers (CRP, fecal calprotectin), and endoscopic assessments, were conducted at baseline, week 14, and week 30. The primary endpoint was steroid-free clinical remission at week 14, with secondary endpoints including clinical/biochemical response, mucosal healing, and adverse events.

Results: Thirty-six patients (20 UC, 16 CD) were included. In UC, clinical response at week 14 was 71.4%, improving to 92.9% at week 30. Clinical remission increased from 7.1% at week 14 to 50% at week 30. In CD, clinical response at week 14 was 43.8%, rising to 75% at week 30, with remission increasing from 25% to 43.8%. Both groups showed significant improvements in CRP and calprotectin levels.

Conclusion: Vedolizumab demonstrated substantial

clinical and biochemical improvement, particularly in UC patients, with a favorable safety profile. These results support Vedolizumab as an option for patients failing anti-TNF therapy

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ICGH 2025-079

Category: 5.7 Management

Association between adherence to Mediterranean-DASH intervention for neurodegenerative delay diet and disease severity in patients with ulcerative colitis

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Introduction: Ulcerative colitis (UC) is a common type of inflammatory bowel disease (IBD) with increasing prevalence over time¹. It is characterized by periods of active disease and remission. The MIND diet highlights the consumption of natural plant-based foods and limits the intake of animal and high saturated fat foods. This pattern is unique in recommending the consumption of berries and green leafy vegetables². These food items are good sources of different phenolic compounds, fibers, and antioxidant vitamins and minerals.

Materials and Methods: The present cross-sectional study was conducted in the IBD clinic of Imam Reza Hospital, the central clinic of IBD management in East Azerbaijan, Iran. One hundred fifty-eight patients with UC were enrolled from July 2022 to March 2023.

The inclusion criteria for participation in the present study were age 20–60 years old and being diagnosed at least six months before contribution. The exclusion criteria were having other gastrointestinal problems, tumors, autoimmune diseases, or other disorders that necessitate following special diets.

Demographic information, including age (continuous), sex (male/female), and smoking status (current smoker) was obtained using a demographic questionnaire by in-person interview.

the disease severity was determined by a skilled gastroenterologist and endoscopist using the Mayo score. This score.

A valid 168-item Food Frequency Questionnaire (FFQ)³ was applied to gather the dietary intake of different food items in the past year and completed by a skilled nutritionist

Results: after adjusting for diet-related, and demographic characteristics, compared with the patients in the first tertile

of the MIND diet score, the patients in the third tertile had significantly lower odds of disease severity (OR: 0.39, 95% CI: 0.16, 0.97).

Conclusion: In conclusion, the results of the present study showed that high adherence to the MIND diet score was significantly associated with lower odds of severe UC.

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ICGH 2025-080

Category: سیروز و عوارض: تظاهرات پایه ۵.۷

The frequency of complications and the etiology of disease in patients with liver cirrhosis in Khorramabad City during 2007 to 2017

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Introduction: Cirrhosis is a progressive liver disease characterized by fibrosis and irreversible changes in the liver vessels. Due to the liver's vital role in metabolic functions, understanding the causes and complications of liver cirrhosis is crucial. A study was conducted on patients at Shohadaye Ashayer and Shahid Rahimi hospitals in Khorramabad from 2007-2017.

Materials and Methods: This descriptive-analytical cross-sectional study examined the frequency of cirrhosis causes and complications in patients at these medical centers during 2007-2017. Data including age, sex, causes of cirrhosis (alcohol consumption, history of hepatitis B , C , and D, autoimmune hepatitis, cryptogenic cirrhosis, primary sclerosing cholangitis, primary biliary cholangitis, hemochromatosis , and Wilson disease), and complications (ascites, edema, esophageal varices, hepatic encephalopathy, coagulopathy, splenomegaly, thrombocytopenia, and portal hypertension (HTN)) were collected from hospital archives and clinic records. The information was analyzed using Stata software version 16.

Results: The study involved 280 patients, with an average age of 51.02 ± 6.01 years. The majority of patients (23.3%) were in the 51-60 age group, and most were male (64.64%). The leading causes were history of hepatitis B (37.5%), cryptogenic cirrhosis (31.07%) , and history of hepatitis C (16.43%). Common complications included

portal HTN (96.43%), thrombocytopenia (71.79%), and ascites (64.29%).

Conclusion: The study revealed that a history of hepatitis B and cryptogenic hepatitis were the most prevalent causes, and portal HTN was the most common complication of liver cirrhosis across all ages and genders.

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Code: DA-25099

ICGH 2025-081

Category: ۶.۵.۵.۵

Post-COVID-19 Gastrointestinal Manifestations and Risk Factors for Extraintestinal Complications in Inflammatory Bowel Disease Patients: A Retrospective Cohort Study

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Introduction: SARS-CoV-2, the causative agent of COVID-19, poses unique challenges in patients with inflammatory bowel disease (IBD) due to underlying immune dysregulation and immunosuppressive therapy. This study aimed to investigate the prevalence of post-COVID-19 gastrointestinal and extraintestinal manifestations in IBD patients and identify associated risk factors.

Materials and Methods: This retrospective cohort study included 57 IBD patients with confirmed COVID-19 infection hospitalized at Tohid Hospital, Sanandaj, Iran, between 2020 and 2022. Data on demographics, clinical symptoms, disease activity indices, colonoscopic findings, and comorbidities were collected from medical records. Logistic regression analysis was performed to identify risk factors for extraintestinal manifestations using SPSS software.

Results: Among participants, 93% had ulcerative colitis and 7% had Crohn's disease, with a mean age of 41.04 ± 11.85 years. Post-COVID-19 symptoms included gastrointestinal bleeding (80.7%), abdominal pain (71.9%), and diarrhea (61.4%). Disease activity was classified as moderate in 50.9% of patients. Colonoscopic examination revealed dysplasia in 14% of cases. Multivariate analysis identified

advanced age ($P = 0.025$) and presence of comorbidities ($P = 0.028$) as significant independent risk factors for developing extraintestinal manifestations.

Conclusion: IBD patients with advanced age and multiple comorbidities demonstrate increased susceptibility to extraintestinal manifestations following COVID-19 infection. These high-risk patients require intensified surveillance and prolonged follow-up to optimize clinical outcomes.

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ICGH 2025-082

Category: 6.3 Malignant disease - management

Prognostic impact of recurrence on survival in locally advanced rectal cancer: A retrospective cohort study

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Introduction: Despite therapeutic advances, recurrence continues to undermine outcomes in locally advanced rectal cancer. Identifying clinicopathologic factors linked to recurrence and survival may support tailored follow-up strategies and improve patient care.

Materials and Methods: We retrospectively analyzed 339 patients with locally advanced rectal cancer who underwent curative surgery followed by either neoadjuvant (NCRT) or adjuvant chemoradiotherapy (ACRT). Clinicopathologic data included age, sex, tumor differentiation, clinical stage, and treatment modality. Disease-free survival (DFS) was estimated with Kaplan–Meier methods, group differences were assessed with the log-rank test, and Cox regression was applied to identify predictors of DFS.

Results: The cohort included 146 women and 193 men, with a median age of 59 years and median follow-up of 38 months. Tumor differentiation was predominantly well (77.9%), with 10.0% moderate, 2.4% poor, and 9.7% unknown. Clinical stage was localized in 173 (51.0%) and regional in 136 (40.1%) patients. NCRT was administered to 162 (47.8%) and ACRT to 177 (52.2%).

Overall, 16.2% ($n=55$) experienced recurrence, of which 56.4% were local and 43.6% distant. Female patients had higher recurrence than males (21.2% vs. 12.4%, $p<0.05$). No associations were observed between recurrence and differentiation, stage, treatment type, or age group (all $p>0.05$). The median recurrence time was 13.4 months, and 83.6% of recurrence patients subsequently died. DFS

rates at one, three, and five years were 59%, 14%, and 9% among recurrence cases, compared with 83%, 66%, and 60% in non-recurrence patients ($p<0.001$). Cox regression confirmed recurrence as an independent predictor of poor survival (HR 4.20, 95% CI 2.94–6.00, $p<0.001$).

Conclusion: Recurrence remains a pivotal determinant of survival in locally advanced rectal cancer. Female patients were more prone to recurrence, while other clinicopathologic features showed no significant associations. These findings underscore the need for vigilant surveillance and suggest further research into sex-related biological mechanisms driving recurrence.

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ICGH 2025-083

Category: 6.4 Other colonic and anorectal disorders

Gut Microbiota Alterations in Irritable Bowel Syndrome: A Focus on the Firmicutes-to-Bacteroides Ratio

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Introduction: The gut microbiota plays a key role in maintaining gastrointestinal health. Irritable bowel syndrome (IBS), the most common functional gastrointestinal disorder, has multifactorial and largely unclear causes. This study aimed to compare the intestinal bacterial composition of healthy individuals with patients across different IBS subtypes.

Materials and Methods: Stool samples were collected from 38 healthy individuals and 40 patients diagnosed with IBS. Total genomic DNA was extracted from each sample. Quantitative polymerase chain reaction (qPCR) targeting the 16S rRNA gene was employed to quantify the relative abundance of Bacteroides and Firmicutes.

Results: The relative abundance of Firmicutes was lowest in healthy individuals and highest in patients with IBS, particularly in those with the constipation-predominant subtype (IBS-C). In contrast, Bacteroides levels were highest in healthy individuals and lowest in IBS-C patients. While an increased Firmicutes-to-Bacteroides (F/B) ratio was observed across all IBS subgroups, this difference did not reach statistical significance.

Conclusion: The observed changes in gut dysbiosis, particularly the imbalance between Firmicutes and Bacteroides, suggest a potential role in the pathophysiology of IBS. These changes may be a risk factor for the

development of different subtypes of IBS.

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Code: DA-25011

ICGH 2025-084

Category: 7.1 Molecular and cell biology - fibrosis

Diagnostic value of serologic biomarkers for the detection of liver fibrosis in non-alcoholic fatty liver disease

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Introduction: The aim of this study was to evaluate the diagnostic accuracy of various non-invasive methods for Non-alcoholic fatty liver disease (NAFLD) diagnosis in an Iranian population. The methods studied included aspartate aminotransferase to platelet ratio index (APRI), fibrosis-4 (FIB-4) index, aspartate aminotransferase to alanine aminotransferase ratio (AAR), aspartate aminotransferase to platelet count index (AP index), fibrosis index (FI), NAFLD fibrosis score (NFS), Forns index, BARD score, BAAT score and PLALA score. The aim of the current study was to correlate these methods with liver stiffness measurement (LSM) and serum fibrosis markers, using FibroScan as the gold standard

Materials and Methods: In a cross-sectional study of 504 patients with NAFLD or non-alcoholic steatohepatitis (NASH), FibroScan examinations were performed and demographic, clinical and biochemical data were collected. Statistical analyses evaluated the performance of each diagnostic panel, calculating sensitivity, specificity, positive predictive value, negative predictive value and accuracy.

Results: The APRI had high specificity (97.27%) but low sensitivity (4.12%) and limited discriminatory power AUC: 0.50) in the fibrosis panel. In contrast, Forns index and NFS had better AUC values (0.64 and 0.63, respectively), with the NFS having a sensitivity of 80%, indicating potential for broad-based screening. In the cirrhosis panel, the APRI was characterized by high specificity (98.21%) but had low sensitivity (4%) and limited discriminatory power (AUC: 0.51), while the FIB-4 had the highest AUC (0.67) and a

sensitivity of 60%, suggesting its efficacy as a screening tool

Conclusion: NFS and FIB-4 showed promising performance among the evaluated panels for population screening

Send Date: 2025/07/13

Code: DA-25112

ICGH 2025-085

Category: 7.1 Molecular and cell biology – fibrosis

The Protective Effect of Geraniol Against Hepatic Ischemia–Reperfusion Injury by Attenuating Oxidative Stress, Inflammatory Response, and Apoptosis in Rat Model

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Introduction: Hepatic ischemia–reperfusion injury (HIRI) is one of the main causes of hepatic fibrosis that occurs during liver surgery. This study aimed to investigate the protective effect of geraniol (GNL) against HIRI in a rat model.

Materials and Methods: Wistar rats were randomly divided into seven groups and subjected to 45 min of hepatic ischemia, followed by either 60 min or 6 h of reperfusion. Immediately before reperfusion, graded doses of geraniol (50 and 100 mg/kg) were administered intraperitoneally. Serum levels of alanine aminotransferase (ALT) and aspartate aminotransferase (AST) were measured to evaluate liver function. Antioxidant enzyme activities were assessed in liver homogenates. The concentrations of TNF- α , IL-1 β , Bax, and Bcl2 mRNA and proteins in liver tissue were measured using RT-PCR and enzyme-linked immunosorbent assay (ELISA). The expression of Bcl2 and caspase-3 in liver tissue was evaluated by immunohistochemistry. In addition, liver tissue histopathology was examined under a light microscope.

Results: The results demonstrated that liver damage significantly increased after repeated HIRI. However, treatment with GNL reduced hepatic enzyme levels and mitigated pathological changes resulting from repeated HIRI. Additionally, GNL treatment led to a decrease in apoptotic factors.

Conclusion: GNL may be a potential therapeutic agent for preventing or treating hepatic fibrosis caused by ischemia–

reperfusion injury.

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ICGH 2025-086

Category: 2.10 Nutrition - metabolism - pharmacology

Impact of Dietary Protein Quality on Non-Alcoholic Fatty Liver Disease (NAFLD) and Gastrointestinal Function

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Introduction: Non-alcoholic fatty liver disease (NAFLD) is the most prevalent chronic liver condition globally, and growing evidence indicates that dietary protein quality significantly affects its metabolic and gastrointestinal (GI) manifestations. High intakes of total and animal-based proteins are linked to increased hepatic steatosis, inflammation, and fibrosis, while imbalanced amino acid profiles may disrupt lipid metabolism, insulin sensitivity, and hepatocellular homeostasis.

Conversely, insufficient protein intake impairs mitochondrial oxidation and reduces hepatoprotective gut metabolites such as SCFAs and OCFAs, exacerbating NAFLD progression.

This review synthesizes current evidence on how dietary protein quality—defined by source, amino acid profile, and intake level—affects NAFLD development and GI function. It further evaluates microbiota-mediated mechanisms that connect protein metabolism with liver inflammation and steatosis.

Materials and Methods: A structured literature search was performed using PubMed and Google Scholar, including randomized controlled trials, cohort studies, mechanistic experiments, and meta-analyses examining associations between protein quality, NAFLD severity, and GI outcomes. Studies assessing gut microbiota composition, intestinal permeability, SCFA production, mitochondrial metabolism, and amino acid–driven pathways were included

Results: • High total and animal-derived protein intake correlates with increased hepatic fat, greater histological activity, and higher risk of progression to NASH.

• Amino acids such as methionine, phenylalanine, serine, glycine, arginine, and proline show strong associations with

NAFLD histological severity and metabolic dysregulation .

- Excess protein consumption causes dysbiotic microbiota shifts—including reduced *Bacteroides*—and promotes pro-inflammatory metabolites and intestinal permeability, contributing to hepatic inflammation .
- Plant-derived proteins improve insulin sensitivity, decrease hepatic fat deposition, and enhance microbial diversity, potentially reducing fibrosis risk.
- Protein insufficiency disrupts mitochondrial fatty acid oxidation and reduces gut-derived hepatoprotective metabolites, worsening susceptibility to steatosis.

Conclusion: Dietary protein quality plays a critical role in NAFLD pathogenesis through metabolic, inflammatory, and gut–liver axis mechanisms. Emphasizing plant-based proteins, optimizing amino acid profiles, and ensuring adequate intake may mitigate hepatic steatosis and support GI health. Further high-quality RCTs are needed to develop evidence-based recommendations for protein type, dose, and timing in NAFLD prevention and management.

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Category: 2.10 Nutrition - metabolism - pharmacology

The Role of Sarcopenia and Protein Nutrition in the Progression of Chronic Liver Disease

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Introduction: Sarcopenia—defined as the loss of skeletal muscle mass and function—is now recognized as a major complication and prognostic factor in chronic liver disease (CLD), including NAFLD, alcoholic liver disease, and cirrhosis. Current evidence indicates that altered protein metabolism, systemic inflammation, reduced dietary intake, and impaired ammonia detoxification accelerate muscle wasting in liver disease. Sarcopenia is strongly associated with increased morbidity and mortality among

cirrhotic patients.

To summarize contemporary evidence on the bidirectional relationship between sarcopenia and chronic liver disease progression, and to evaluate the impact of dietary protein intake and protein quality—including high-biological-value proteins and BCAA supplementation—on muscle preservation and clinical outcomes in CLD patients.

Materials and Methods: A focused literature search was conducted through PubMed and Google Scholar, including randomized controlled trials, cohort studies, and meta-analyses assessing sarcopenia prevalence, prognostic significance, and the effects of protein-based nutritional interventions in CLD. Mechanistic studies describing ammonia metabolism, muscle protein synthesis, and inflammatory pathways were also included.

Results: • Sarcopenia affects approximately 30–70% of patients with cirrhosis and is independently associated with higher risk of infection, hepatic encephalopathy, portal hypertension complications, and increased mortality.

• Protein intake below 1.0 g/kg/day is linked to accelerated muscle loss, while current guidelines recommend 1.2–1.5 g/kg/day to maintain or restore muscle mass in CLD. Supplementation with branched-chain amino acids (BCAAs) improves muscle protein synthesis, reduces ammonia levels, and enhances event-free survival in sarcopenic cirrhotic patients.

• Evidence suggests that whey protein, BCAA-rich formulas, and high-quality plant proteins (e.g., soy) may support muscle preservation without increasing the risk of hepatic encephalopathy when total daily protein targets are met.

• Sarcopenia contributes to liver disease progression by reducing metabolic reserve, increasing systemic inflammation, impairing immune function, and worsening clinical decompensation—indicating a bidirectional cycle between muscle loss and hepatic dysfunction.

Conclusion: Sarcopenia is both a consequence and a driver of chronic liver disease progression. Adequate dietary protein intake—supported by targeted supplementation such as BCAAs or high-biological-value proteins—plays a crucial role in preserving muscle mass, improving clinical outcomes, and potentially slowing the evolution of liver disease. Further high-quality randomized controlled trials are needed to determine optimal protein type, dose, and timing across different stages of chronic liver disease.

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Category: 7.2 Nutrition - metabolism - pharmacology

Management of metabolic dysfunction-associated steatotic liver disease (nonalcoholic fatty liver disease) in adults

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Metabolic dysfunction-associated steatotic liver disease (MASLD; previously termed nonalcohol-associated fatty liver disease [NAFLD]) is a spectrum of disease characterized by hepatic steatosis in the absence of heavy alcohol consumption. MASLD may progress to cirrhosis and is likely an important cause of cryptogenic cirrhosis. This topic will review the treatment and prognosis of MASLD. The pathogenesis, clinical manifestations, and diagnosis of MASLD are discussed separately

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Category: ۷.۵ اداره بیماری

Local Guidelines Regarding the Therapeutic and Diagnostic Management of Silent Crohn's Patients

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Crohn's disease is a chronic and progressive inflammatory disease of the gastrointestinal tract; whose symptoms recur and subside. This disease mainly affects the ileum and terminal colon and usually causes segmental, asymmetric, and transmural inflammation. Its clinical symptoms are variable, including diarrhea, abdominal pain, rectal bleeding, weight loss, and skin lesions. Due to the unknown causes of this disease, it is difficult to diagnose and manage it, especially in cases of silent Crohn's disease that does not have clear symptoms, and this has made the diagnosis of silent Crohn's a serious challenge for specialists. Unfortunately, today there is no specific guideline for the diagnosis and management of silent Crohn's disease, and the purpose of this research is to provide such a guideline. Two separate approaches were adopted: firstly, the evaluation of international articles (researchers' point of view) and the second part, the evaluation of the opinions of Iranian specialists active in the field of diagnosis and treatment of Crohn's patients (experts' point of view). in terms of Therefore, the opinions and discussions raised in international articles regarding diagnostic methods, clinical indicators, alternative methods in diagnosis, treatment

methods, methods of monitoring treatment, and follow-up are reviewed, summarized, and compared with the opinions and performance of experts. Internally placed. According to experts' opinions, questions were designed based on scenarios of patients with special conditions. Then, the opinions of the country's most prominent internal medicine and gastroenterology specialists were recorded in person or by phone. Finally, the opinions were summarized and a proposed recommendation was created for the diagnosis of silent Crohn's disease. Mainly for the initial diagnosis of silent Crohn's depending on the condition of the disease, the diagnosis of aphthous lesions similar to Crohn's, in patients with high CRP and other inflammatory indicators or fecal calprotectin, the diagnostic recommendations were based on colonoscopy-based methods. Endoscopy (capsule) and especially ileocolonoscopy, fecal calprotectin assay, but no diagnosis is superior to histopathological findings. For treatment, steroid immunosuppressive drugs, mesalazine, budesonide, azathioprine, and sometimes surgery are useful. In cases where the intensity of the lesions is low, the use of non-steroidal anti-inflammatory drugs and acetylsalicylate recommended. However, there is often no need for therapeutic intervention and the lesions may have resolved spontaneously during follow-up. For the diagnosis of silent Crohn's disease, our proposed guideline can be of great help to physicians, as the most available tools are identified in diagnosis, disease monitoring, treatment, and follow-up. We recommend that the effectiveness of this guideline in the diagnosis and treatment of silent Crohn's disease be investigated by other researchers.

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Category: ۷.۵ اداره بیماری

Decreased bone mineral density in inflammatory bowel disease: The prevalence and risk factors

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Introduction: The prevalence of inflammatory bowel diseases (IBDs) has increased in recent decades. The incidence of osteoporosis in the population with IBD is higher than in the normal population. Therefore, it seems necessary to carefully examine the risk factors associated

with decreased bone mineral density (BMD) among these patients.

Materials and Methods: Patients with IBD completed a questionnaire including demographic data, drug history, underlying disease (past medical history), and family history, then their bone density was measured with a DEXA device. Also, laboratory samples were prepared. Densitometry results were placed in three groups: normal, osteoporotic, and osteopenia. All of the data was analyzed by SPSS version 23 software.

Results: This study was conducted on 63 patients (58 patients with ulcerative colitis (UC) and 5 patients with Crohn's disease (CD)). The bone density was normal in 40 patients, 16 had osteopenia and 7 had osteoporosis. There was a significant relationship between bone density and age ($P < 0.001$), smoking ($P=0.049$), past medical history ($P < 0.001$), extraintestinal involvement ($P=0.008$), duration ($P=0.023$) and menopause ($P=0.002$). Also, the amount of use of corticosteroid drugs ($P=0.014$), the level of calcium ($P=0.017$), and vitamin D ($P < 0.001$) in the blood had a significant relationship with bone density.

Conclusion: In our study, we showed that age, smoking status, underlying conditions, extraintestinal involvement, corticosteroid use, levels of vitamin D and calcium, and menopause are risk factors for an increased risk for decreased BMD in IBD patients.

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ICGH 2025-091

Category: اداره بیماری ۷.۵

Effect of ethanolic extract of *Trachyspermum ammi* as an adjuvant therapy on bleeding reduction in patients with inflammatory bowel disease

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Introduction: Inflammatory bowel disease (IBD), including ulcerative colitis and Crohn's disease, is characterized by chronic idiopathic intestinal inflammation. Treatment-resistant cases pose significant therapeutic challenges. This pilot study aimed to evaluate the efficacy of ethanolic extract of *Trachyspermum ammi* as adjuvant therapy in reducing bleeding and improving clinical outcomes in treatment-resistant IBD patients.

Materials and Methods: This single-arm interventional study enrolled 30 patients with treatment-resistant IBD referred to the gastroenterology clinic of Towhid Hospital, Sanandaj, Iran. Participants received 250 mg capsules of *T. ammi* ethanolic extract twice daily for three months as adjuvant to standard therapy. Clinical parameters including C-reactive protein (CRP), fecal occult blood (FOB), daily bowel movement frequency, rectal bleeding severity, and colonoscopic findings were assessed at baseline and post-intervention. Data were analyzed using SPSS software.

Results: The mean age of participants was 36.10 ± 11.65 years. Post-intervention analysis revealed significant improvements ($P < 0.001$) in daily bowel movement frequency, rectal bleeding severity, and other clinical indicators. No adverse effects were reported during the study period.

Conclusion: *Trachyspermum ammi* ethanolic extract demonstrated promising results as a safe and well-tolerated adjuvant therapy for treatment-resistant IBD patients. However, randomized controlled trials with larger sample sizes are warranted to confirm these findings.

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ICGH 2025-092

Category: 7.6 Cirrhosis and complications: clinical aspects

Can Non-Invasive Tests Replace Liver Biopsy? Assessing NFS, FIB-4, APRI, BARD, BAAT, API, and AAR for Advanced Fibrosis in MASLD patients in Iran

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Introduction: Liver fibrosis is a metabolic dysfunction-associated steatotic liver disease (MASLD) complication. A dependable and cost-effective noninvasive marker for hepatic fibrosis is needed in patients with MASLD. We aimed to evaluate and compare the diagnostic accuracy of the APRI, FIB-4, NFS, BARD score, BAAT score, API, and AAR score instruments in detecting advanced liver fibrosis and cirrhosis among Iranian subjects with MASLD.

Materials and Methods: This study examined subjects diagnosed with MASLD, determining liver fibrosis staging via biopsy. Various sociodemographic, epidemiological, and biochemical variables were evaluated, and scores were compared across groups. Receiver Operating Characteristic (ROC) curves were created to identify optimal cutoff points using the Youden index, along with calculations for sensitivity, specificity, and predictive values.

Results: APRI was able to detect advanced fibrosis levels (stage 3 and cirrhosis) with an area under the ROC curve (AUROC) of 0.930. In comparison, FIB4 identified advanced fibrosis with an AUROC of 0.897, NFS achieved an AUROC of 0.871, and the BARD score had an AUROC of 0.688. Likewise, the BAAT score also recorded an AUROC of 0.579, while the AAR score provided an AUROC of 0.641, and the API score also showed an AUROC of 0.807.

Conclusion: In this study, the APRI, FIB-4, and NFS tests demonstrated the highest predictive power for advanced liver fibrosis in the Iranian population.

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Category: 7.6 Cirrhosis and complications: clinical aspects

Carvedilol vs. Band Ligation for Primary Prevention of Variceal Bleeding

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Primary prevention of esophageal variceal bleeding includes either variceal band ligation (VBL) or nonselective β -blockers. Carvedilol is the preferred nonselective β -blocker, due to its established efficacy in lowering

portal pressure and improving patient outcomes. This study supports the effectiveness, safety, and cost savings of carvedilol. It included patients with compensated and decompensated cirrhosis, and although it was underpowered to detect a difference in the primary outcome,

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Category: 7.6 Cirrhosis and complications: clinical aspects

Platelet Count/Spleen Diameter Ratio for the Non-Invasive Diagnosis of Esophageal Varices in Iranian patients with cirrhosis

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Introduction: Esophageal varices (EVs) are a common manifestation of portal hypertension in individuals with liver cirrhosis. Undetected EVs carry a significant risk of rupture and variceal bleeding, which can be life-threatening for cirrhotic patients. In this study, we examined whether non-invasive parameters such as platelet count (PC), spleen diameter (SD), and the platelet count/spleen diameter (PC/SD) ratio could predict the presence of EVs in Iranian patients with liver cirrhosis

Materials and Methods: Upper gastrointestinal endoscopy was performed on 147 cirrhotic patients in order to screen for EVs. Biochemical tests and ultrasonography were done to measure SD and calculate the PC/SD ratio. ROC analysis was done to determine the predictive performance of these parameters

Results: 73% of patients had EVs. The area under the ROC curve (AUC) of PC was 0.695, with 78.7% sensitivity and 56.4% specificity. SD had an AUC of 0.750, with 49.1% sensitivity and 89.7% specificity. The PC/SD ratio had an AUC of 0.734, with 60.2% sensitivity and 79.5% specificity. The PC/SD ratio had a high positive predictive value of 93%, but a low negative predictive value of 41.9%. The best cutoff values were: $PC \leq 100,000$, $SD < 163$, and $PC/SD \text{ ratio} \leq 523$.

Conclusion: PC, SD, and PC/SD ratio can be useful non-invasive tools for predicting the existence of EVs in

cirrhotic patients. However, endoscopic screening remains the standard for diagnosing and managing EVs. These non-invasive parameters could help identify patients who should undergo endoscopy for EV screening

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Category: ۷.۷: هپاتیت های ویرال: تظاهرات پایه

PiS and PiZ Alpha 1 Antitrypsin Polymorphism and the Risk of Chronic Hepatitis C in North East of Iran

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Introduction: Genetic factors play an important role in individual susceptibility to hepatitis C. The alpha-1 antitrypsin (A1AT) gene, encoded by the SERPINA1 gene, protects liver tissue, but its variants, PiS and PiZ, negatively affect liver function.

Materials and Methods: Participants were divided into two groups of hepatitis C patients and controls. Each group consisted of 68 cases. In the study group, there were 8 females and 60 males, and in the control group, there were 39 females and 29 males. DNA was extracted from peripheral blood samples, and routine laboratory tests, including alanine aminotransferase (ALT) enzyme, were conducted. The RFLP-PCR technique was used to analyze the two common polymorphisms of this gene, Glu264Val and Glu342Lys (S and Z variants).

Results: The average age of patients and the control group was 41.76 ± 10.61 and 37.39 ± 12.77 , respectively. Among patients, 48 had normal ALT levels compared to 57 individuals with normal ALT in the control group. Moreover, the genetic analysis indicated that the frequencies of S and Z variants of A1AT in patients with HCV are higher than in the control group ($P < 0.05$). In the control group, the frequency of the S variant was 5.77%. In the hepatitis C group, the frequency of the S variant was 23.44%, and this difference is significant after adjustment for confounders. The results of risk factor analysis also illustrated that the frequency of alcohol consumption (41.17%), addiction (47.05%), transfusion (45.58%), and tattooing (35.29%) was significantly higher in patients.

Conclusion: SS and ZZ variants in the group of patients

with hepatitis C are significantly more prevalent than in the control group. This higher frequency would presumably be a reason for the increased susceptibility to this type of viral hepatitis.

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ICGH 2025-096

گروه: ۷.۷: هپاتیت های ویرال: تظاهرات پایه

فراوانی هپاتیت B و C در بیماران دیالیزی مراجعه کننده به بخش دیالیز بیمارستان علی ابن ابیطالب (ع) و بیمارستان خاتم الانبیا شهرستان زاهدان سال ۱۴۰۲

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زمینه و هدف: بیماران تحت درمان با همودیالیز به دلیل شرایط خاص درمانی از جمله مواجهه مکرر با خون و فرآورده های خونی، تضعیف سیستم ایمنی و انجام اقدامات تهاجمی پزشکی، از جمعیت های پرخطر برای ابتلا به عفونت های ویروسی منتقله از خون به ویژه هپاتیت B و C محسوب میشوند. بررسی الگوی اپیدمیولوژیک و تعیین شیوع این عفونت ها نه تنها به عنوان شاخصی برای ارزیابی کیفیت مراقبت های بهداشتی و اثربخشی برنامه های کنترلی در مراکز دیالیز عمل میکند، بلکه برای طراحی و اجرای مداخلات هدفمند پیشگیرانه در آینده ضروری است. هدف از این مطالعه تعیین شیوع سرمی هپاتیت B و C در بیماران دیالیزی مراجعه کننده به مراکز درمانی وابسته به دانشگاه علوم پزشکی زاهدان در سال ۱۴۰۲ بود.

روش بررسی: این پژوهش یک مطالعه توصیفی-مقطعی (Cross-sectional) بود که بر روی کلیه پرونده های پزشکی بیماران دیالیزی دو بیمارستان امام علی (ع) و خاتم الانبیا (ص) شهر زاهدان در بازه زمانی مشخص شده در سال ۱۴۰۲ انجام گرفت. روش نمونه گیری به صورت سرشماری بود و در مجموع ۳۲۰ بیمار وارد مطالعه شدند. داده های مورد نیاز شامل اطلاعات دموگرافیک (جنس) و نتایج آزمایش های سروزیک (HBsAg) برای هپاتیت B و Anti-HCV برای هپاتیت C) مستخرج از پرونده ها بود که در یک چک لیست محقق ساخته ثبت گردید. **یافته ها:** از میان ۳۲۰ بیمار مورد مطالعه، ۱۷۸ نفر (۵۵.۶٪) زن و ۱۴۲ نفر (۴۴.۴٪) مرد بودند. میانگین سنی بیماران ۴۳ تا ۵۳ سال بود. در مورد هپاتیت B ۹ نفر از ۳۲۰ بیمار (۲.۸٪) از نظر HBsAg مثبت بودند. توزیع شیوع بر اساس مرکز درمانی نشان داد که در بیمارستان امام علی (ع)، ۴ نفر از ۱۶۰ بیمار (۲.۵٪) و در بیمارستان خاتم الانبیا (ص)، ۵ نفر از ۱۶۰ بیمار (۱.۳٪) مثبت بودند. آنالیز آماری با آزمون کای-دو نشان داد که این تفاوت بین دو مرکز از نظر آماری معنادار نیست ($p\text{-value} = 0.735$) از نظر توزیع جنسیتی، شیوع (در بین زنان ۲.۲٪ (۴ نفر از ۱۷۸ نفر) و در بین مردان ۳.۵٪ (۵ نفر از ۱۴۲ نفر) بود که این اختلاف نیز از نظر آماری معنادار نبود ($p\text{-value} = 0.493$) در مورد هپاتیت C، یافته بسیار برجسته و حائز اهمیت این بود که در بررسی انجام شده، هیچ موردی از عفونت با ویروس هپاتیت C (یعنی Anti-HCV مثبت) در بین کل ۳۲۰ بیمار دیالیزی مورد بررسی شناسایی نشد (شیوع ۰٪). **نتیجه گیری:** یافته های این مطالعه نشان دهنده شیوع نسبتاً پایین هپاتیت B (کمتر از ۳٪) و عدم وجود کامل موارد هپاتیت C در بین بیماران دیالیزی مورد مطالعه در شهر زاهدان است. این الگوی اپیدمیولوژیک مطلوب، به ویژه شیوع صفر درصدی هپاتیت C می تواند نشان دهنده اثربخشی قابل توجه

و موفقیت آمیز برنامه های اجرا شده در سطح کشور و منطقه، از جمله واکسیناسیون سراسری هپاتیت B غربالگری بسیار دقیق خون و فرآورده های خونی، و مهم تر از همه، اجرای سخت گیرانه و موفق استانداردهای کنترل عفونت در مراکز دیالیز تحت پوشش دانشگاه علوم پزشکی زاهدان باشد.

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Category: 7.8 Viral hepatitis B: clinical aspects

Systemic inflammatory indices as predictors of hepatic involvement in chronic hepatitis B:

Evidence from the Azar cohort study

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Introduction: Hepatitis B virus (HBV) infection remains a major global health concern, predisposing patients to chronic liver disease, cirrhosis, and hepatocellular carcinoma. Chronic HBV infection is often accompanied by systemic and hepatic inflammatory responses. The neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) have recently been proposed as accessible markers of systemic inflammation in several chronic diseases. However, their utility in HBV infection requires further clarification. This study aimed to evaluate NLR and PLR in HBV-infected individuals compared with healthy controls, and to explore their association with liver function indices.

Materials and Methods: A total of 100 participants were enrolled from the Azar Cohort, including 50 patients with chronic HBV infection and 50 age- and sex-matched healthy controls. Blood samples were analyzed for HBV serological markers (HBsAg, HBsAb, HBcAb), complete blood counts (WBC, neutrophils, lymphocytes, and platelets), and liver function tests. NLR and PLR were calculated, and their correlations with biochemical markers of liver injury were assessed.

Results: No significant difference in platelet counts was observed between patients and controls ($P=0.54$). Neutrophil percentages were significantly reduced in patients, whereas lymphocyte percentages were elevated compared with healthy subjects (both $P<0.05$). Consequently, both NLR and PLR values were significantly decreased in HBV patients relative to controls ($P<0.006$ and $P<0.01$, respectively). These alterations reflect a shift in systemic inflammatory balance during HBV infection.

Conclusion: Our findings indicate that reduced NLR and PLR may serve as potential systemic inflammatory markers in patients with chronic HBV infection. These easily obtainable hematological indices could complement standard liver function tests in assessing inflammatory status and monitoring disease progression. Further large-scale, longitudinal studies are warranted to validate their prognostic utility in predicting clinical outcomes of HBV-related liver disease.

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Category: 7.8 Viral hepatitis B: clinical aspects

Comparison of liver enzyme profiles across hepatitis B serological groups in the Azar cohort

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Introduction: Liver function tests (LFTs) are widely used to assess hepatic health and integrity. Variations in enzyme levels may reflect prior hepatitis B virus (HBV) exposure or immunity status. This study aimed to compare serum levels of liver enzymes among participants of the Azar cohort according to HBV serological profiles.

Materials and Methods: This cross-sectional study included 4,949 individuals aged 35–70 years from the Azar cohort. Participants were classified into five groups based on HBsAg, HBsAb, and HBcAb markers: vaccinated, chronic hepatitis B, spontaneously recovered, anti-HBc positive, and seronegative. Mean serum levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT), and alkaline phosphatase (ALP) were compared using one-way ANOVA.

Results: The vaccinated group showed significantly lower AST levels than the spontaneously recovered and anti-HBc positive groups ($P = 0.003$ and $P < 0.001$). Both the spontaneously recovered and anti-HBc positive groups had higher AST levels compared with the seronegative group ($P = 0.003$ and $P < 0.001$). ALT levels were significantly higher in the vaccinated group compared with the anti-HBc positive group ($P = 0.004$), while the anti-HBc positive group had lower ALT levels than the seronegative group ($P < 0.001$). For ALP, participants with chronic hepatitis B had significantly higher values than those in the spontaneously recovered ($P = 0.03$) and seronegative ($P = 0.04$) groups.

These patterns are summarized in Figure 1.

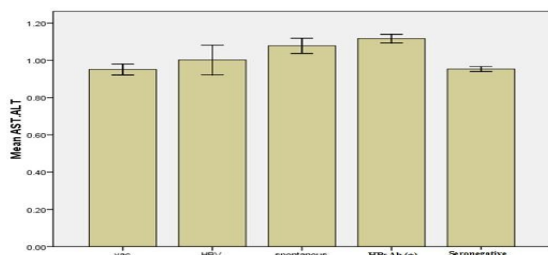


Figure 1. Mean serum levels of liver enzymes (AST, ALT) across different hepatitis B Serological groups in the Azar cohort.

Conclusion: Distinct differences in liver enzyme patterns were observed across HBV serological groups. The AST/ALT ratio was lower in vaccinated individuals than in the spontaneously recovered and anti-HBc positive groups, while higher ratios were found in the latter compared with seronegative participants. These findings highlight the influence of HBV infection and immune status on liver enzyme profiles at the population level.

Send Date: 2025/08/18

Code: DA-25104

ICGH 2025-099

Category: بیماریهای بدخیم مری ۲. ۸

Epidemiological Survey of Esophageal Cancer: A 10-Year Report

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Introduction: Cancer is a leading cause of human mortality. Gastrointestinal cancers are among the most common and deadly, often diagnosed at late stages when effective treatment is not possible.

Materials and Methods: This study was designed as a cross-sectional study. It involves a case study of all recorded gastrointestinal cancers. The data was collected through a census method, using the medical records of patients with gastrointestinal cancers who visited a gastroenterology clinic. Additionally, if an information system is available for data collection, it will be used for reporting.

Results: Total of endoscopies and colonoscopies were 6223. Between all of GI cancers 66 esophageal cancer patients were examined. The average age was 67.2 ± 13.5 years, with the youngest being 38 and the oldest 92. The highest prevalence (37.9%) was in the 65-79 age group, and 15.2% were under 50. Of the patients, 54.5% were men

and 45.5% were women; 80.3% lived in urban areas, and 19.7% were in rural areas. Most tumors in men were in the lower third (63.9%), while in women, they were in the middle third (50%), but this was not statistically significant ($P = 0.0502$). SCC was found in 61.1% of men and 73.4% of women, which was also not statistically significant ($P = 0.287$).

Conclusion: The prevalence of esophageal cancer was 19.34% (66 cases), making it the second most common cancer after gastric cancer. The most common pathology was squamous cell carcinoma (66.7%), followed by adenocarcinoma (31.8%). The lower third of the esophagus was the most frequently involved site, accounting for about half of the cases.

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Code: DA-25124

ICGH 2025-100

Category: تظاهرات کینیک هیپاتیت B. ۸

HBV Core/Pre-Core Mutations in Iraqi Patients with Chronic Hepatitis

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Introduction: The present study was conducted to assess the pattern of HBV Core/Pre-Core mutations and HBV genotype in Iraqi patients with chronic hepatitis B virus (HBV) infection.

Materials and Methods: In the current cross-sectional study in an Iraqi province, we evaluated 134 patients diagnosed with HBV hepatitis. We used PCR and, subsequently, Sanger sequencing to assess HBV Core/Pre-Core mutations. Sanger sequencing reads were further used for phylogenetic analysis and multiple sequence alignment. A phylogenetic tree was generated according to the neighbor-joining method.

Results: The current study revealed that 58 (45%) of the patients were male, and 72 (55%) of them were female. The mean age of the patients was 36 ± 12.7 years, and the mean duration of infection was 5.2 ± 4.8 years. The results revealed 21 nucleic acid alterations in the samples analyzed. The generated phylogenetic tree divided samples into two genotypes. Pre-core/Core mutations were significantly associated with the treatment received ($P = 0.0001$) but not with laboratory parameters. Most samples were matched with the genotype D clade, while only four samples were positioned adjacent to the genotype E clade. Direct nucleic acid translation disclosed five nucleic acid variants (73T>G, 347T>G, 364A>G, 365T>C, and 366A>G) on the core protein.

Conclusion: This study has detected 21 nucleotide variants and 5 amino acid alterations within the coding sequences of the C gene. This study revealed that genotype D represents the primary genotype for the identified viral infections. The current study highlights the importance of these mutations evaluation for future, more comprehensive studies.

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Code: DA-25126

ICGH 2025-101

Category: A: 7. B: تظاهرات کلینیکی

The burden of Hepatitis B Infection in Immunized Infants Born to Mothers with HBsAg Positive

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Introduction: It has a wide range of clinical manifestations and can range from asymptomatic or mild symptoms to liver failure and death. One of the main routes of hepatitis B virus transmission is mother to child transmission, which has decreased in recent years with the implementation of immunization methods. The purpose of this study is to investigate the prevalence of hepatitis B infection in immunized infants born to mothers with chronic hepatitis B.

Materials and Methods: In this study, PubMed, Scopus, Web of Science, Google Scholar, SID, Magiran and IranDoc databases were searched and articles and studies related to the title were reviewed from 2002 to 2024.

Results: A total of 40 studies were included in the present study based on the desired criteria, among which OBI patients were reported from 0.04 to 5.4% in blood donors. Meanwhile, the prevalence of HBV infection has been reported from 7.5 to 42% in infants born to HBsAg positive mothers, despite vaccination and receiving antiviral prophylaxis.

Conclusion: According to the studies reviewed in the present study, the prevalence of OBI in children born to CHB or HBsAg positive mothers in Iran ranges from 3.1% to 21% despite prophylaxis, HBV vaccination, and passive immunization (IVIG) in newborns, and this rate has been reported worldwide from 6.4% to 42% in different societies. One of the main routes of hepatitis B virus transmission is mother-to-fetus transmission, which in recent years has been emphasized by some on the positive effect of vaccine and passive immunization, while others do not consider its effect significant. Further studies in different populations seem necessary to achieve a conclusive result and guide health policy makers.

Send Date: 2025/11/08

Code: DA-25055

ICGH 2025-102

Category: 8.1 Bile acids - transport - cholestasis

Clinical Implications of the Protective Role of the Gallbladder in Patients with Primary Sclerosing Cholangitis

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Introduction: Primary sclerosing cholangitis (PSC) is a rare and progressive cholestatic liver disease that leads to fibrotic strictures in intrahepatic and extrahepatic bile ducts and eventually causes liver cirrhosis in most patients over time. The gallbladder can protect the liver from the adverse effects of bile acid overload through sequestration and cholecystohepatic shunt of bile acids. The aim of this study is to evaluate the protective role of the gallbladder in PSC patients by assessing the impact of gallbladder volume on the laboratory findings, imaging and prognosis of these patients and comparing these parameters in PSC patients with and without prior cholecystectomy.

Materials and Methods: A total of 59 PSC patients referred to Imam Khomeini Hospital in 1402 and 1403 were included in the study. The diagnosis of PSC was made based on the presence of cholestasis for more than 6 months and by ruling out other causes of cholestasis and ruling out other causes of sclerosing cholangitis and by confirming evidence of large duct PSC in MRCP by two radiologists. 59 patients, 9 of whom had prior cholecystectomy, were included in the study. Triphasic MRI/MRCP and fasting blood test were performed for patients.

Results: In PSC patients with a large gallbladder, the incidence of intraductal stones was significantly lower (χ^2 test, p-value: 0.006) and the severity of RHD stricture was significantly less (χ^2 test, p-value: 0.05) than in patients with a normal-size gallbladder. Gallbladder volume negatively correlated with bilirubin level (pearson correlation, p-value : 0.006), MAYO score (pearson correlation, p-value : 0.007) and MELD-Na score (pearson correlation, p-value : 0.003). Cholecystectomized patients had higher bilirubin level (Mann-Whitney U test, p-value : 0.03) and higher MAYO score (Mann-Whitney U test, p-value: 0.03) compared to those with conserved gallbladder.

Conclusion: This study provides evidence supporting a potential protective role of the gallbladder in patients with PSC

Send Date: 2025/08/24

Code: DA-25146

ICGH 2025-103

Category: 9.3 Pancreatitis - acute

Investigating the effects of potential risk factors on the worldwide trends of pancreatic cancer mortality from 1990 to 2021

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Introduction: Pancreatic cancer is among the most lethal malignancies worldwide, with rising mortality trends driven by aging populations and increasing prevalence of key risk factors.

Materials and Methods: This study investigated the effects of potential risk factors on global pancreatic cancer mortality. We conducted a longitudinal analysis of pancreatic cancer mortality rates from 1990 to 2021 across 204 countries using the Global Burden of Disease data. Potential determinants—including HDI, life expectancy

at birth, tobacco, alcohol, and diabetes prevalence—were incorporated into a series of Generalized Estimating Equation (GEE) models. To account for between country heterogeneity, we applied longitudinal k means clustering. The GEE models were then fitted to estimate subgroup specific effects of covariates.

Results: Overall, between 1990 and 2021, the mean pancreatic cancer mortality rate increased from 4.22 to 7.58 per 100,000 population. In the unadjusted GEE model, mortality rose by 0.571 deaths per 100,000 every five years ($p < 0.001$), but this time effect attenuated to 0.068 ($p = 0.370$) after full adjustment. HDI ($\beta = 0.122$, $p < 0.001$) and diabetes prevalence ($\beta \approx 0.30$, $p < 0.001$) were positively associated with mortality, whereas life expectancy at birth and alcohol consumption exhibited non-significant effects. Longitudinal k-means clustering approach classified countries into five subgroups. Pancreatic cancer mortality has increased globally, but the magnitude and drivers vary substantially by country subgroup. Elevated HDI and diabetes prevalence emerge as key determinants, especially in high income regions.

Conclusion: Tailored prevention and early detection strategies accounting for regional socioeconomic and demographic contexts—are urgently needed to curb the rising pancreatic cancer burden.

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Code: DA-25052

ICGH 2025-104

Category: 9.5 Malignant disease and endocrine tumors of the pancreas

An Updated Meta-Analysis of Inflammatory Bowel Disease and the Risk of Pancreatic Cancer

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Introduction: Inflammatory bowel disease (IBD) is recognized as a multisystem disorder, with up to 50% of patients experiencing at least one extra-intestinal

manifestation. This meta-analysis aims to systematically evaluate the relationship between IBD and the risk of developing pancreatic cancer (PC).

Materials and Methods: We conducted searches in PubMed (Medline), Web of Science, and Scopus up to September 8, 2024. To assess heterogeneity among the studies, we used the chi-square test and the I^2 statistic, where an I^2 value greater than 50% indicated high heterogeneity. We calculated estimates for odds ratios (OR), relative risks (RR), and hazard ratios (HR), along with their corresponding 95% confidence intervals (CI). The analysis was performed using a random-effects model. A significance level of less than 0.05 was established for statistical significance, using Stata software, version 17.

Results: We included a total of 17 studies in our analysis. Overall, patients with IBD showed a higher risk of developing PC, with an OR=1.69 (95% CI: 1.48–1.93). Specifically, patients with Crohn's disease (CD) had an OR of 1.25 (95% CI: 1.10–1.41), while those with ulcerative colitis (UC) had an OR=1.27 (95% CI: 1.10–1.45). Furthermore, patients with IBD accompanied by primary sclerosing cholangitis (PSC) displayed a significantly higher risk, with an OR=3.12 (95% CI: 1.67–5.85). Additionally, there was no evidence of publication bias across all subgroups. Although there was no publication bias, we conducted a trim & fill analysis to investigate the small-study effect. The results of this test revealed that the study's results were influenced by omitted studies, and that the pooled effects would be diluted if the omitted studies were included in the meta-analysis.

Conclusion: CD and UC are associated with an increased risk of PC, with no significant difference in risk levels between the two conditions. However, having IIBD along with PSC increases the risk of PC threefold.

Send Date: 2025/08/21

Code: DA-25023

ICGH 2025-105

Category: 9.5 Malignant disease and endocrine tumors of the pancreas

Serum CA19-9, CEA, and inflammation-based indices as predictors of survival in pancreatic cancer patients

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Introduction: Tumor markers such as carcinoembryonic antigen (CEA), carbohydrate antigen 19-9 (CA19-9), and systemic inflammatory markers including C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) have been suggested as potential prognostic indicators for pancreatic cancer. This study aimed to investigate the predictive value of these biomarkers on survival in patients with pancreatic cancer.

Materials and Methods: The current cross-sectional study was conducted on 50 patients newly diagnosed with pancreatic cancer. Serum levels of CEA, CA19-9, CRP, and ESR were measured at baseline using standardized laboratory protocols. Survival analysis was performed using Cox proportional hazards regression models across three models: unadjusted, adjusted for age and sex, and fully adjusted for clinical and demographic variables. Kaplan–Meier survival curves and the log-rank test were used to evaluate differences in survival reporting by hazard ratio (HR) and a significant level <0.05.

Results: Out of 50 patients, 30 were males and the mean age was 62.8 ± 10.5 years. No statistically significant difference in survival was observed between patients with different levels of CEA across all models ($P>0.05$). However, elevated CA19-9 levels (>1000 U/mL) were significantly associated with reduced survival ($P<0.001$). In the fully adjusted model, high CA19-9 levels were associated with a 4.82-fold increased risk of death (HR=4.82; 95% CI: 1.34–17.31; $P=0.016$). Similarly, CRP levels >40 mg/L were associated with increased mortality risk in unadjusted (HR=2.62; 95% CI: 1.04–6.57; $P=0.040$) and age- and sex-adjusted models (HR=2.93; 95% CI: 1.15–7.45; $P=0.024$), though this association lost significance in the fully adjusted model ($P>0.05$). ESR showed no significant association with survival in any model ($P>0.05$).

Conclusion: Our findings demonstrated that elevated CA19-9 had the strongest and most consistent association with poor survival outcomes in patients with pancreatic cancer, even after adjusting for confounders. While elevated CRP levels may indicate worse prognosis, their predictive value diminished after full adjustment.

Send Date: 2025/08/03

Code: DA-25022

ICGH 2025-106

Category: 9.5 Malignant disease and endocrine tumors of the pancreas

Predictors of survival rate in patients with pancreatic cancer in Guilan province, Iran

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Introduction: Pancreatic cancer is one of the most lethal malignancies worldwide, with a notably poor prognosis. This study aimed to identify clinical and demographic predictors of survival among patients with pancreatic cancer in Guilan Province, Iran.

Materials and Methods: In this cross-sectional study, 50 patients with histologically and radiologically confirmed pancreatic cancer from Guilan province were included. Demographic and clinical data of patients were collected. Survival probability was estimated using the Kaplan–Meier method, log-rank test, and Cox proportional hazards models were applied to identify factors associated with survival using SPSS and GraphPad Prism by considering a significant level <0.05.

Results: The majority of patients were over 60 years old (58.0%), male (60.0%), normal BMI (46.0%), blood group O (40.0%), with comorbidities (42.0%), and had tumor stages IV (32.0%). The mean survival time was 6.39 months, and median survival was 9.0 months. One-, three-, and five-year survival rates were 45.2%, 31.3%, and 23.5%, respectively. Advanced disease stage (III/IV) was significantly associated with reduced survival ($P<0.001$). Underweight patients had a significantly higher risk of death than those with normal BMI (HR=2.79, 95% CI: 1.21–6.42, $P=0.016$). In multivariate analysis, male gender (HR=3.38, 95% CI: 1.26–2.79, $P=0.016$), blood group O (HR=2.86, 95% CI: 1.10–7.42, $P=0.031$), and stage III/IV disease (HR=3.32, 95% CI: 1.16–9.46, $P=0.025$) were independent predictors of increased mortality.

Conclusion: Due to our findings, advanced tumor stage, male gender, underweight BMI, and blood group O were associated with decreased survival in patients with pancreatic cancer. These findings may inform risk stratification and management strategies for affected individuals.

Send Date: 2025/08/03

Code: DA-25021

ICGH 2025-107

Category: 9.5 Malignant disease and endocrine tumors of the pancreas

Predictive value of serum albumin levels and liver enzymes for survival in patients with pancreatic cancer

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Introduction: Serum biomarkers such as albumin and liver enzymes may serve as prognostic indicators in pancreatic cancer. This study evaluated the association between serum levels of albumin, aspartate aminotransferase (AST), and alanine aminotransferase (ALT) with survival in patients with pancreatic cancer

Materials and Methods: This cross-sectional study was conducted on 50 patients with confirmed pancreatic cancer in Guilan Province, Iran' and demographic, clinical, and laboratory data of patients were collected. Serum levels of albumin, AST, and ALT were categorized into tertiles, and hypoalbuminemia was defined as albumin <3.5 g/dL. Survival was assessed using Cox proportional hazards models (unadjusted and adjusted modes). Kaplan–Meier curves and log-rank tests were used to compare survival according to the variables. The significant level was set at 0.05.

Results: Most patients were males (60%) and the mean age of patients was 62.8 ± 10.5 years with the mean survival of 6.39 months. Results demonstrated thatHypoalbuminemia was independently associated with increased mortality (HR=3.89, 95% CI: 1.23–12.25, $P=0.020$), of which each 1 g/dL increase in serum albumin was associated with a 51% lower mortality risk (HR=0.49, 95% CI: 0.33–0.73, $P<0.001$). Serum levels of AST ≥ 48 U/L and ALT >93 U/L were significantly associated with higher risk of mortality in unadjusted and age-sex adjusted models ($P<0.05$), however, after removing the effects of confounders, no statistically significant association was observed ($P>0.05$).

Conclusion: Our findings illustrated hypoalbuminemia is a strong, independent predictor of poor survival in pancreatic cancer, and routine, cost-effective monitoring of albumin

and liver enzymes offers practical value for guiding personalized care, especially in resource-limited settings.

Send Date: 2025/08/03

Code: DA-25091

ICGH 2025-108

Category: تغذیه ۱۰

Predominant dietary patterns in adults with liver cirrhosis: insights from principal and confirmatory factor analyses

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Introduction: Despite the global health burden of liver cirrhosis, the role of diet in its progression remains poorly characterized. This study aimed to delineate predominant dietary patterns in adults with cirrhosis and to evaluate the robustness of these models through confirmatory factor analysis (CFA), while exploring potential links with sarcopenia.

Materials and Methods: We conducted a cross-sectional study including 92 adults with clinically confirmed cirrhosis, recruited from a tertiary referral academic center between February 2024 and January 2025. Comprehensive sociodemographic, anthropometric, lifestyle, and dietary data were collected using standardized protocols. Dietary intake was assessed using a validated 168-item food frequency questionnaire, which was subsequently collapsed into 27 predefined food groups. Exploratory factor analysis (EFA) with orthogonal varimax rotation was employed to identify major dietary patterns, while confirmatory factor analysis (CFA) was used to test model robustness. The number of retained factors was guided by Kaiser's criterion (eigenvalues >1.5) and scree plot inspection. Adequacy of the sample was supported by a Kaiser–Meyer–Olkin (KMO) statistic of 0.60, alongside highly significant Bartlett's tests of sphericity ($p < 0.001$). Pattern scores were calculated as weighted sums of standardized food group intakes. Path analysis was then performed to evaluate the indirect role of protein deficit in the relationship between healthy dietary patterns and sarcopenia. Goodness-of-fit indices, including χ^2/df ratio, goodness-of-fit index (GFI), incremental fit index (IFI), comparative fit index (CFI), standardized root mean square residual (SRMR), and root mean square error of approximation (RMSEA), were employed to ensure model adequacy, with conventional cut-offs applied.

Results: Principal component analysis revealed four

distinct and interpretable dietary patterns. The Western dietary pattern was characterized by high intakes of red and processed meats, organ meats, fried foods, and refined grains, consistent with energy-dense but nutrient-poor profiles.

The Unhealthy dietary pattern reflected an elevated consumption of high-sodium foods, condiments, full-fat dairy products, and processed items, indicating excessive exposure to sodium and saturated fat. The Prudent dietary pattern was defined by greater consumption of vegetables, nuts, liquid oils, and whole grains, consistent with cardiometabolic protective behaviors. Finally, the Plant-Based & Light dietary pattern was characterized by a higher intake of legumes, tea, spices, and boiled potatoes, with relatively low consumption of animal-derived foods, indicating a low-energy-density dietary approach. CFA supported the validity of this four-pattern structure, with fit indices meeting or approaching accepted thresholds ($\chi^2/df = 1.29$; GFI = 0.88; IFI = 0.89; CFI = 0.90; SRMR = 0.080; RMSEA = 0.057). Collectively, these findings indicate robust construct validity of the identified patterns.

Conclusion: This study provides the first robust evidence, validated through confirmatory factor analysis, for four specific dietary patterns among patients with cirrhosis. The clear identification of "Western" and "Unhealthy" patterns, contrasted with "Prudent" and "Plant-Based & Light" patterns, offers a clinically actionable framework for risk stratification. Future longitudinal studies are warranted to elucidate causal pathways and to determine whether modifying dietary patterns can improve clinical outcomes, quality of life, and survival in these populations.

Send Date: 2025/10/05

Code: DA-25138

ICGH 2025-109

Category: تغذیه ۱۰

The association of dietary inflammatory index (DII) and pancreatic steatosis: a case control study

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Introduction: The dietary inflammatory index (DII) has been shown to be related to several chronic diseases. The objective of the current study was to investigate the association between dietary inflammatory index (DII) and the risk of pancreatic steatosis.

Materials and Methods: This case-control study was conducted on 278 patients diagnosed with common bile duct (CBD) stones. 89 patients were diagnosed with pancreatic steatosis (case group) based on an endoscopic ultrasonography (EUS) examination, whereas the remaining 189 patients were healthy in this regard (control group). Dietary inflammatory index (DII) was evaluated according to a validated food frequency questionnaire (FFQ). Crude and multivariable-adjusted odds ratios (ORs) and 95% confidence intervals (CIs) were calculated using multiple logistic regression models.

Results: Compared to the control group, the case group showed significantly higher dietary inflammatory scores. Higher DII scores were significantly linked to an increased risk of FP according to logistic regression analysis in both crude and adjusted models. In the final adjusted model, higher scores of DII (OR T2 versus T1 = 1.36; 95% CI 0.71–2.58, and OR T3 versus T1 = 3.3; 95% CI: 1.59–6.8; P for trend = 0.001) were associated with a higher risk of developing FP.

Conclusion: Our results demonstrated that diet-induced inflammation was correlated with an elevated risk of developing fatty pancreas. Further multi-center prospective studies are required to corroborate this association.

Send Date: 2025/11/18

Code: DA-25139

ICGH 2025-110

Category: تغذیه ۲.۱۰

The association of dietary advanced glycation end products (AGEs) and metabolic dysfunction-associated steatotic liver disease (MASLD) in patients with diabetes (T2DM)

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Introduction: Metabolic dysfunction-associated steatotic liver disease (MASLD) is the most prevalent chronic liver condition recently. The objective of this study was to investigate the potential link between dietary advanced glycation end products (AGEs) and MASLD in patients with diabetes (T2DM).

Materials and Methods: Two hundred patients with T2DM participated in this cross-sectional study, including 133 patients with MASLD and 67 patients without MASLD. Fibroscan was used to measure hepatic steatosis.

A validated food frequency questionnaire was employed to ascertain the dietary intake of individuals, and we utilized multiple logistic regression to examine odds ratios (ORs) and 95% confidence intervals for MASLD according to quartiles of dietary AGEs.

Results: Participants exhibited higher AGE intake as fat mass and CAP score increased (P= 0.016 and P= 0.011, respectively). The risk of MASLD was significantly greater in the highest quartile of dietary AGE levels than in the lowest quartile, and this link became more powerful when additional adjustments for possible confounders were made. An OR of 5.14 (95% CI = 1.34- 19.6) with a significant trend (P-trend = 0.008) was found after complete adjustment for possible confounders (age, sex, smoking status, physical activity, duration of diabetes, fasting blood sugar, serum triglyceride, serum total cholesterol, energy intake, and BMI).

Conclusion: Our results revealed that high dietary AGE levels were linked to an elevated chance of MASLD in diabetic patients. Multicenter investigations with larger sample sizes are warranted to validate these findings.

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Code: DA-25079

ICGH 2025-111

Category: تغذیه ۲.۱۰

Association of dietary advanced glycation end products and risk of overall and cause-specific mortality: findings from the Golestan Cohort Study

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Introduction: Controversy exists regarding the association of dietary advanced glycation end products (dAGEs) with the risk of disease outcomes and mortality. We aimed to examine, prospectively, the association between dAGEs intake and the risk of overall and cause-specific mortality in the Golestan Cohort Study

Materials and Methods: The cohort was conducted

between 2004 and 2008 in Golestan Province (Iran) recruiting 50,045 participants aged 40–75 years. Assessment of dietary intake over the last year was performed at baseline using a 116-item food frequency questionnaire. The dAGEs values for each individual were calculated based on published databases of AGE values of various food items. The main outcome was overall mortality at the time of follow-up (13.5 years). Hazard ratios (HRs) and 95% confidence intervals (CIs) for overall and cause-specific mortality were estimated according to the dAGEs quintiles.

Results: During 656, 532 person-years of follow-up, 5406 deaths in men and 4722 deaths in women were reported. Participants at the highest quintile of dAGE had a lower risk of overall mortality (HR: 0.89, 95% CI: 0.84, 0.95), CVD mortality (HR: 0.89, 95% CI: 0.84, 0.95), and death from other causes (HR: 0.89, 95% CI: 0.84, 0.95) compared to those in the first quintile after adjusting for confounders. We found no association of dAGEs with risk of mortality from cancer (all), respiratory and infectious diseases, and injuries.

Conclusion: Our results do not support a positive association between dAGEs and the risk of mortality in Iranian adults. There is still no agreement among studies investigating dAGEs and their health-related aspects. So, more high-quality studies are needed to clarify this association.

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ICGH 2025-112

Category: 10.2 Nutrients and gut function

Dietary Advanced Glycation End Products (AGEs) and Their Role in Gastrointestinal and Liver Disorders: A Systematic Review

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Introduction: Dietary Advanced Glycation End Products (AGEs) are bioactive compounds formed during high-temperature cooking methods such as frying, grilling, and roasting. In addition to their endogenous production under hyperglycemic and oxidative conditions, exogenous AGEs from food are increasingly recognized as contributors to gastrointestinal dysfunction and liver pathology. Through mechanisms involving oxidative stress, low-grade chronic inflammation, intestinal barrier disruption, and alterations in gut microbiota, dietary AGEs may play a crucial role in the development and progression of disorders such as irritable bowel syndrome (IBS), increased gut permeability, and non-alcoholic fatty liver disease (NAFLD). Considering the global rise of digestive and metabolic diseases, understanding the impact of AGEs on the gut–liver axis is clinically relevant.

Materials and Methods: A systematic review was conducted following PRISMA guidelines. PubMed, Scopus, and Web of Science were searched for studies published between 2010 and 2024 examining the impact of dietary (exogenous) AGEs on gastrointestinal and liver outcomes. Search terms included: “dietary AGEs,” “advanced glycation end products,” “gut permeability,” “intestinal inflammation,” “gut microbiota,” “liver disorders,” and “NAFLD.” Peer-reviewed original studies, including observational studies, clinical trials assessing dietary AGE intake, and animal or in-vitro studies with exogenous AGEs, were included. Studies focusing exclusively on endogenous AGEs, review articles, conference abstracts, and papers lacking full text were excluded. Key information was extracted, including study type, method of AGE assessment, gastrointestinal or liver outcomes, and main results. Due to heterogeneity in study designs and outcomes, results were summarized qualitatively.

Results: Evidence from human and animal studies consistently indicates that high dietary AGEs intake is associated with impaired gut barrier function, altered gut microbiota, and increased intestinal inflammation, marked by elevated pro-inflammatory cytokines such as TNF- α and IL-6. In the liver, excessive dietary AGEs contribute to hepatic fat accumulation, oxidative stress, and activation of the RAGE signaling pathway, promoting inflammation and fibrotic processes. Observational human studies show a positive association between high dietary AGEs and risk of NAFLD, while mechanistic animal studies confirm causal links between dietary AGEs, increased gut permeability,

and liver injury. Although endogenous AGEs contribute to systemic inflammation and metabolic stress, their impact on gastrointestinal and hepatic outcomes appears secondary to dietary AGEs.

Conclusion: This review emphasizes that dietary AGEs exert a direct and significant effect on gut and liver health. Disruption of gut microbial balance and intestinal inflammation may facilitate translocation of microbial products to the liver, activating the RAGE pathway and inducing oxidative stress, inflammation, and fibrosis. Reducing dietary AGE intake, particularly from high-heat cooked and processed foods, may represent a practical preventive strategy. Future research should clarify dose-response relationships, long-term effects, and interactions between dietary and endogenous AGEs. Overall, these findings underscore the critical role of dietary AGEs in the gut–liver axis and support the integration of targeted dietary strategies into preventive and therapeutic approaches for gastrointestinal and liver diseases.

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Code: DA-25141

ICGH 2025-113

Category: 10.2 Nutrients and gut function

Tea consumption and irritable bowel syndrome: a systematic review and meta-analysis

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Irritable bowel syndrome (IBS) is a growing global health concern, with diet playing a key role in its development and management. Given the widespread consumption of tea and its potential health effects, we conducted a systematic review and meta-analysis to clarify the inconsistent findings from previous observational studies on the association between tea intake and IBS. Electronic databases including ISI, Scopus, Web of Science, PubMed, and Cochrane were searched from the beginning to November 2024 with appropriate and special search strategies. Odds ratios (OR) were extracted or calculated from eligible studies and meta-analysis was performed to calculate the pooled effect size. A significant association between tea consumption and IBS was observed in unadjusted studies (pooled OR: 1.25; 95% CI: 1.001–1.57). However, this association was not statistically significant in adjusted analyses (pooled OR: 1.61; 95% CI: 0.89–2.94). Subgroup analysis by region showed a significant relationship only in East Asia (pooled OR: 1.39; 95% CI: 1.16–1.68), while no significant

association was found in other regions (pooled OR: 1.13; 95% CI: 0.73–1.75). Additionally, a significant association was found in high-quality studies (pooled OR: 1.65; 95% CI: 1.21–2.26). No evidence of publication bias was detected, and sensitivity analysis confirmed the robustness of the findings. Tea consumption is positively associated with IBS, especially in East Asia. However, due to borderline confidence intervals and insufficient adjustment for confounders, the evidence remains inconclusive. Further prospective studies with precise measurement of intake are required to confirm this relationship.

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Code: DA-25044

ICGH 2025-114

Category: ۱۰.۷ نارسایی حاد کبدی - پیوند / جراحی

Comparative Analysis of Demographic Factors and Outcomes in Liver Transplant Patients: Insights from the Montaserieh Hospital Liver Registry, Mashhad

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Introduction: Liver transplantation is a life-saving treatment for end-stage liver disease, acute liver failure, and certain metabolic disorders. Despite advances in surgical techniques and immunosuppression, post-transplant outcomes are still influenced by demographic and clinical factors. Clarifying these associations is essential to optimize patient selection, improve long-term survival, and guide individualized follow-up. This study aimed to evaluate the impact of demographic characteristics on liver transplant outcomes in a large single-center cohort.

Materials and Methods: We retrospectively analyzed 661 patients who underwent liver transplantation between 2014 and 2024 at Montaserieh Transplant Hospital, Mashhad. Demographic variables (age, gender, marital status, education) and clinical factors (addiction, comorbidities, prior surgeries, and primary liver disease) were reviewed. Outcomes were assessed based on graft rejection or acceptance, defined by abnormal liver function tests and histopathological confirmation. Associations between demographic and clinical factors with transplant outcomes were tested, with significance set at $P < 0.05$.

Results: Recipients had a mean age of 45.9 ± 17.0 years, with 433 males (65.5%) and 228 females (34.5%). Major indications for transplantation included cryptogenic

cirrhosis (26.2%), hepatitis B (25.4%), and autoimmune hepatitis (12.6%), while acute liver failure was rare (0.5%). Most grafts came from deceased donors; five patients (0.8%) received living-donor grafts. Graft rejection occurred in 107 patients (16.2%). Younger age ($P = 0.002$), male sex ($P < 0.001$), and marital status ($P = 0.004$) were significantly associated with rejection, while other variables, including MELD scores, showed no significant associations.

Conclusion: Older age, male sex, and marital status were linked to higher risk of graft rejection. These findings emphasize the importance of demographic factors in transplantation outcomes and support closer monitoring and tailored care for higher-risk groups.

Send Date: 2025/08/21

Code: DA-25024

ICGH 2025-115

Category: نارسایی حاد کبدی - پیوند / جراحی ۱۰.۷

Comparison of time-to-event machine learning models in predicting biliary complication and mortality rate in liver transplant patients

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Introduction: Post-Liver transplantation (LT) survival rates stagnate, with biliary complications (BC) as a major cause of death.

Materials and Methods: We analyzed longitudinal data with a median 19-month follow-up. BC was diagnosed with ultrasounds and MRCP. Missing data was imputed using mean and median. Data preprocessing involved feature scaling and one-hot encoding. Survival analysis used filter (Cox-P, Cox-c) and embedded (RSF, LASSO) feature selection methods. Seven survival machine learning algorithms were used: LASSO, Ridge, RSF, E-NET, GBS, C-GBS, and FS-SVM. Model development employed 5-fold cross-validation, random oversampling, and hyperparameter tuning. Random oversampling

addressed data imbalance. Optimal hyperparameters were determined based on average C-index. Features importance was assessed using standardized regression coefficients and permutation importance for top models. Stability was evaluated using 5-fold cross-validation standard deviation. Finally, 1799 observations with 40 outcome predictors were included. RSF with Ridge achieved the highest performance (C-index: 0.699) for BC prediction, while RSF with RSF had the highest performance (C-index: 0.784) for mortality prediction.

Results: Top BC predictors were LT graft types, IBD in recipients, recipient's BMI, recipient's history of PVT, and previous LT history. For mortality, they were post-transplant AST, creatinine, recipient's age, post-transplant ALT, and tacrolimus consumption.

Conclusion: We identified BC and mortality risk factors, improving decision-making and outcomes.

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Code: DA-25110

ICGH 2025-116

Category: بیماریهای وابسته به اسیدپپتیک ۱۱.۲

Evaluation of Large Language Models in the Clinical Management of Patients With Upper Gastrointestinal Bleeding: Insights From Real- World Patient Data

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Introduction: Upper gastrointestinal bleeding (UGIB) is a life-threatening emergency that requires rapid risk stratification and timely intervention. Existing clinical scoring systems, such as the Rockall and Glasgow-Blatchford scores, have limited predictive accuracy and clinical adoption. Recent advances in large language models (LLMs) offer new opportunities for integrating heterogeneous clinical data to support decision-making; however, their application in UGIB has not been systematically evaluated.

Materials and Methods: A retrospective analysis was

performed on 384 consecutive patients admitted with UGIB to two tertiary referral hospitals in Iran between March and December 2024. Demographic, clinical, laboratory, and endoscopic variables were extracted from electronic medical records. Conventional ML classifiers were benchmarked against five advanced LLMs (GPT-5, Llama 4, Gemini-2.5-Flash, DeepSeek R1, and Grok) utilizing in-context, chain-of-thought, and tree-of-thought prompting strategies. Models were tasked with (i) risk stratification (need for urgent vs. non-urgent endoscopic intervention), (ii) multi-label prediction of probable endoscopic findings, and (iii) generation of reasoning justifications. Model performance was evaluated using standard metrics (accuracy, precision, recall, F1-score). Two expert gastroenterologists independently assessed the clinical coherence of model-generated justifications across seven quality domains (relevance, clarity, originality, completeness, specificity, correctness, and consistency).

Results: Traditional ML models demonstrated limited performance (best accuracy = 0.54; F1 = 0.52). LLMs outperformed all baselines. GPT-5 achieved the highest binary classification accuracy (0.66), followed by Llama 4 (0.64). Grok showed superior multi-label prediction (exact-match accuracy 0.32). Expert review found GPT-5 generated complete but occasionally repetitive reasoning and over-classified urgent cases; Llama 4 provided brief, low-specificity outputs; Grok offered detailed yet inconsistent logic; Gemini-2.5-Flash produced structured but misprioritized reasoning; and DeepSeek R1 delivered patient-specific insights with a mild overtreatment bias.

Conclusion: LLMs substantially outperformed conventional ML approaches in predictive accuracy and interpretive depth for UGIB risk assessment. Despite these advancements, variability in reasoning and residual bias highlight the necessity of human oversight, domain-specific optimization, and prospective multicenter validation prior to clinical implementation.

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ICGH 2025-117

Category: سایر موارد ۱۳.۷

Prevalence of fatty liver based on the Fatty Liver Index (FLI) and its association with laboratory findings and obesity-related factors in the Dehgolan cohort

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Introduction: Nonalcoholic fatty liver disease (NAFLD) represents the most prevalent chronic liver condition globally, ranging from simple hepatic steatosis to nonalcoholic steatohepatitis (NASH), potentially progressing to cirrhosis and hepatocellular carcinoma. The Fatty Liver Index (FLI) provides a validated, noninvasive tool for detecting hepatic steatosis. This study aimed to determine FLI-based fatty liver prevalence and examine its associations with demographic, socioeconomic, anthropometric, and metabolic parameters in a large Iranian population.

Materials and Methods: This cross-sectional analysis included 3,996 participants aged 35-70 years from the Dehgolan Cohort Study. Data on demographics, socioeconomic status, physical activity, anthropometric measurements, and laboratory parameters were collected. FLI was calculated using the standard formula incorporating BMI, waist circumference, triglycerides, and gamma-glutamyl transferase. Participants were categorized as low-risk (FLI <30), intermediate (FLI 30-60), or high-risk (FLI ≥60) for fatty liver. Associations were assessed using correlation analyses and logistic regression models.

Results: The cohort comprised 2,248 males (56.3%) and 1,748 females (43.7%), with a mean age of 48.33 ± 8.91 years and mean BMI of 27.99 ± 4.58 kg/m². Based on FLI classification, 24.8% had low risk, 31.3% intermediate risk, and 43.9% high risk for fatty liver. High-risk FLI was significantly more prevalent in males compared to females (55.7% vs. 49.0%, $P < 0.001$). FLI demonstrated significant positive correlations with age ($r = 0.079$, $P < 0.001$), weight, waist circumference, hip circumference, and BMI (all $P < 0.001$). Elevated FLI was significantly associated with lower educational attainment, employment status, socioeconomic disadvantage, and comorbidities including diabetes mellitus, hypertension, cardiovascular disease, and gestational diabetes history (all $P < 0.05$). Serum aminotransferases (AST and ALT) showed strong positive associations with FLI scores.

Conclusion: Nearly half of middle-aged adults in the Dehgolan cohort demonstrated high FLI scores, indicating substantial fatty liver burden. Strong associations with modifiable risk factors—particularly obesity indicators and metabolic comorbidities—underscore the importance of

population-based screening strategies and targeted lifestyle interventions for NAFLD prevention and early detection in at-risk populations.

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ICGH 2025-118

Category: سایر موارد ۱۳.۷

Effects of Resveratrol on Liver Function Tests in Patients with Non-Alcoholic Fatty Liver Disease: a Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Introduction: Some studies have shown that resveratrol may prevent, delay, or treat liver damage. This study aimed to provide up-to-date evidence regarding the effect of resveratrol on the liver enzymes (ALT & AST) in NAFLD patients. We conducted a systematic review and meta-analysis to evaluate the effect of resveratrol on liver enzymes in patients with NAFLD by searching various databases for published RCTs.

Materials and Methods: A systematic search in PubMed, Scopus, and Web of Science was performed up to September 2023. This systematic review and meta-analysis included all the RCT studies assessing resveratrol supplements on serum AST and/or ALT in NAFLD patients. The effect was presented as a mean difference and 95 % confidence interval (CI) in a random-effects model.

Results: Finally, six eligible randomized controlled trials consisting of 256 patients were found. Resveratrol had no significant effect on serum ALT (Mean diff = 3.30 IU/L; 95 % CI: -2.34, 8.94; p = 0.25) and AST (Mean diff = 0.07 IU/L; 95 % CI: -2.96, 3.10; p = 0.96) concentrations. Moreover, subgroup analysis revealed that neither resveratrol dose nor intervention duration had any significant effect on the serum ALT and AST levels.

Conclusion: The current evidence shows that resveratrol supplementation did not affect liver enzymes in NAFLD patients.

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ICGH 2025-119

Category: سایر موارد ۱۳.۷

Unusual cause of duodenal ulcers in patient with positive occult blood

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Introduction: Strongyloides stercoralis is a world-wide human nematode, which is endemic in north of Iran. The forms of infection with strongyloides stercoralis varies from asymptomatic forms to life-threatening forms of the disease especially in immunocompromised hosts. Diagnosis can be made by detection of larvae in the stool, but routine stool examination may be negative, because larval output is irregular. Here we describe a case with unusual presentation of the disease.

Case report: A 78 years old man was referred to the gastroenterology clinic because of occult blood in stool. He reported no abdominal pain, weight loss, fatigue or other systemic symptoms and stool examination was obtained as annual screening evaluations. He had a history of well controlled hypertension on metoprolol. Laboratory investigations demonstrated a white blood cell count of $6.4 \times 10^9/L$ with 9.4% eosinophils and a hemoglobin level of 13.9 g/L. Stool examination of three fecal samples was unremarkable except for positive occult blood in two samples. The results of routine laboratory testing, including liver and kidney function tests were normal. The patient underwent colonoscopy, which was unremarkable but gastroduodenoscopy revealed inflammation, erosions and small ulcers in first and second part of duodenum (figure1). The area of abnormality in Duodenum was biopsied, and the histology slide is shown in figure 2. Histologic examination showed mucosal injury with prominent eosinophilic infiltration and sections of Strongyloides stercoralis.

Discussion: Strongyloides stercoralis is a worldwide human nematode, which is endemic in tropical and temperate climates. It is often asymptomatic or causes mild symptoms that involve the gastrointestinal tract, The disseminated and life-threatening forms of the disease are more commonly observed in immunocompromised hosts. Eosinophilia is seen in most infected individuals. Diagnosis can be made by detection of larvae in the stool, but routine stool examination may be negative, because larval output is irregular. Histopathological identification of the parasite in tissue sections provides the definite diagnosis. Our patient had erosions and ulcers associated with Strongyloides stercoralis, he didn't have any history of

immunodeficiency. Although upper gastrointestinal ulcers induced by *Strongyloides stercoralis* are well described in immunosuppressed patients, they are rarely reported in immunocompetent individuals and it seems that, index of suspicion of health care providers is low. The most anthelmintic drugs used to treat *Strongyloides* infection are ivermectin, albendazole and thiabendazole. The patient was treated with albendazole 400 mg orally twice daily for three days was found to be completely cured of Strongyloidiasis when the gastroduodenoscopy and duodenal biopsies were repeated after eight weeks.

Send Date: 2025/11/20

Code: DA-25119

ICGH 2025-120

Category: سایر موارد ۱۳.۷

Do we should considere the MASLD as a multisystem disease? what about its extra hepatic comrbidities associated

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Introduction: Fatty liver disease and metabolic dysfunction-associated steatotic liver disease (MASLD) have recently been identified as a significant global health concern, with numerous studies correlating MASLD with various extrahepatic comorbidities. This study assessed extrahepatic comorbidities in individuals with MASLD and emphasized the importance of a multidisciplinary approach for its treatment.

Materials and Methods: A cross-sectional investigation was carried out at a tertiary center in Tehran. Diagnosis of fatty liver was made through ultrasonographic findings. Individuals with other liver conditions were excluded from the study. Participants had their liver stiffness assessed using Fibroscan, while clinical data and liver function tests were gathered, and they completed questionnaires for DASS-21 and the Pittsburgh Sleep Quality Index (PSQI).

Results: Among the 385 participants in the study, 50.6% experienced severe steatosis, while 29.1% exhibited severe fibrosis. Various comorbidities, including hypertension (fibrosis: $P=0.033$, steatosis: $P=0.011$), diabetes (fibrosis: $P=0.006$, steatosis: $P=0.002$), and inadequate sleep quality (fibrosis: $P=0.015$), were notably linked to the severity of NAFLD. There were significant differences in the average scores for depression and anxiety across varying degrees of

fibrosis and steatosis ($P<0.05$).

Conclusion: MASLD is a multisystem condition that has extensive extrahepatic effects on numerous organs and systems. Individuals diagnosed with MASLD need to be assessed for additional health issues, including diabetes, cardiovascular diseases, and mental health disorders, in order to enhance overall health results and hinder the progression of the disease.

Send Date: 2025/11/06

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ICGH 2025-121

Category: سایر موارد ۱۳.۷

Association of the FIB-4 Index with Hypertension in Patients with Type 2 Diabetes: A Cross-Sectional Study

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Introduction: Type 2 diabetes mellitus is a major risk factor for metabolic dysfunction-associated steatohepatitis (MASH). The fibrosis-4 (FIB-4) index is a cost-effective and non-invasive screening tool for identifying patients at risk of liver fibrosis. While liver fibrosis is associated with increased cardiovascular risk, the relationship between FIB-4 and hypertension has not been fully studied. This study aimed to evaluate the association between FIB-4 and hypertension in diabetic patients without known cardiovascular disease.

Materials and Methods: This cross-sectional study included 208 patients with type 2 diabetes, aged 40–70 years, without known cardiovascular disease, recruited from Imam Mohammad Bagher Primary Health Center and Ziaiean Hospital between March 2024 and August 2025. Participants were classified into two groups based on hypertension status. Demographic characteristics, liver function tests, blood pressure, and FIB-4 index were collected.

Results: A total of 208 participants with type 2 diabetes were included mean age 56.14 ± 8.46 years, 58 (27.88%) male. Of these, 97 (46.6%) had hypertension. Patients with hypertension had higher mean FIB-4 values ($p = 0.038$). Spearman's correlation showed no significant association between FIB-4 and systolic blood pressure ($p = 0.009$, $p = 0.895$) or diastolic blood pressure ($p = -0.106$, $p =$

0.126). After adjusting for age, BMI, sex, and HbA1c in a multivariable logistic regression model, FIB-4 was not independently associated with hypertension (OR = 1.073, 95% CI: 0.473–2.434, $p = 0.866$).

Conclusion: Although diabetic patients with hypertension showed higher FIB-4 values, the index was not independently associated with blood pressure or hypertension after adjustment. Non-invasive liver fibrosis markers such as FIB-4 may still provide valuable clinical insights in diabetic populations.

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Code: DA-25092

ICGH 2025-122

Category: 14.3 Management of malignant disease

Environmental Tobacco Smoke and Stomach Cancer: A Pooled Analysis Within Stomach Cancer Pooling (StoP) Project

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Introduction: Smoking is a recognized risk factor for gastric cancer. Few studies are published on environmental tobacco smoke (ETS) and its association with gastric cancer. In this study, a pooled analysis was conducted to evaluate the potential impact of ETS on gastric cancer and its interaction with other behavioral and environmental factors within the StoP project.

Materials and Methods: The StoP Project is an international consortium of epidemiological studies focused on gastric cancer, including 34 studies and a total of 13,121 cases and 31,420 controls. For this pooled analysis, five case-control studies with ETS data were selected, resulting in the inclusion of 1,560 cases and 2,497 controls. A two-stage modeling approach was used. Study-specific odds ratios (ORs) and corresponding 95% confidence intervals (95% CI) were estimated using unconditional logistic regression models, adjusting for sex, age, education, socioeconomic status (SES), smoking status, alcohol drinking status, body mass index (BMI) group, *Helicobacter pylori* infection serostatus (imputed in **% of the set using multiple imputations). Pooled effect ORs were meta-analyzed using random-effects models. Heterogeneity between studies was quantified using I² (%)

statistics. A sensitivity analysis was conducted excluding Hu's (China) study, which was considered an outlier. Potential interaction assessments between ETS and other risk factors analysis were performed.

Results: In the study-specific analysis, a significant association between ETS and gastric cancer was observed from Iran's study with an adjusted OR of 2.19 (95% CI, 1.08-4.45) among non-smokers. In the sensitivity analysis, the pooled OR of 1.64 (95% CI, 1.12, 2.41) showed that those who were exposed to ETS at home or work might have an elevated risk of gastric cancer among non-smokers adjusting for sex, age, education group, SES, smoking status, alcohol drinking status, BMI group, and *H. pylori* infection status.

Conclusion: Our results indicated that ETS is associated with stomach cancer in this large pooled dataset. ETS might be involved in the development of stomach cancer, emphasizing the need for related preventive measures and policies aimed at reducing stomach cancer incidence.

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Code: DA-25010

ICGH 2025-123

Category: 15.5 Functional gastrointestinal disorders (clinical - management)

Investigating the association between sleep patterns in people with and without digestive symptoms: A cross-sectional from PERSIAN Guilan cohort study

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Introduction: Sleep patterns and gastrointestinal symptoms are closely related to each other. Sleep disorders such as insomnia and poor sleep quality can cause problems in the digestive system, and many gastrointestinal diseases can also affect sleep patterns. In this study, the association between sleep patterns and gastrointestinal symptom status was investigated in the Guilan cohort.

Materials and Methods: This was an analytical- cross-sectional study. The sampling method was convenience sampling, in which demographic information and gastrointestinal symptoms of 10,520 individuals referred to the Guilan cohort were recorded, and information about the sleep patterns of the individuals was also recorded.

Results: Based on the findings, the average age of the

participants was 51.52 ± 8.90 years. Among the 10,520 individuals studied, 5,629 were women, 4,195 were categorized as overweight, and 3,434 were categorized as obese. The most common gastrointestinal problem was gastroesophageal reflux disease (GERD) in the past year with a prevalence of 41.5%, while the least common gastrointestinal issue was jaundice of the eyes or skin with a prevalence of 1.2%. Acid reflux from the stomach to the esophagus was significantly associated with leg shaking during sleep and regular use of sleeping pills. Bloating, abdominal distension and Blood in the stool were significantly associated with bedtime, morning wake-up time, leg shaking during sleep, daytime napping, and regular use of sleeping pills. Unintentional weight loss was significantly associated with bedtime and regular use of sleeping pills. Additionally, constipation was significantly associated with nighttime sleep, bedtime, morning wake-up time, daytime sleep, working night shifts, leg shaking during sleep, daytime napping, and regular use of sleeping pills.

Conclusion: Based on the results of this study, a high prevalence of gastrointestinal issues such as acid reflux, abdominal bloating, and constipation was reported. These problems are significantly associated with sleep-related factors.

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ICGH 2025-124

Category: 15.5 Functional gastrointestinal disorders (clinical - management)

Current status of functional testing for upper gastrointestinal disorders

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Neurogastroenterology and motility disorders of the upper gastrointestinal (GI) tract represent a complex and heterogeneous group of conditions that involve the interaction between the GI tract and the central nervous system. They constitute a significant number of outpatient gastroenterology visits, resulting in a high healthcare burden. These disorders often occur in the absence of identifiable structural causes on routine endoscopy and radiological imaging. A more targeted approach in the assessment of functional GI disorders is increasingly being integrated into routine clinical practice, given the recent advancements in technology and physiologic testing. When used in the appropriate clinical context, these tests not only elucidate the physiological basis for the patient's

symptoms, but also prevent inappropriate treatment and repeated investigations.

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ICGH 2025-125

Category: 16.1 Host defence mechanisms - immune reactions

Fecal Microbiota Transplantation as a Therapeutic Strategy in Liver Disorders

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Introduction: The human gut hosts a diverse microbial community essential for health. Dysbiosis is linked to acute and chronic liver diseases, including fatty liver, cirrhosis, and autoimmune liver disorders. Fecal microbiota transplantation (FMT) has emerged as a promising approach to restore microbial balance and support liver function.

Materials and Methods: A literature review of studies published between 2015 and 2025 was conducted using PubMed, Scopus, and Web of Science. Keywords included: "fecal microbiota transplantation," "gut microbiome," "liver disease," "dysbiosis," "fatty liver," "cirrhosis," and "autoimmune liver disease." Relevant basic science and clinical studies were selected.

Results: Evidence from animal models and clinical studies indicates that FMT can restore gut microbial diversity and correct dysbiosis. Patients undergoing FMT showed improved liver function tests, reduced inflammation, and enhanced overall metabolic profiles. The intervention was generally safe and well-tolerated.

Conclusion: FMT is a promising therapeutic strategy for acute and chronic liver diseases by rebuilding a healthy gut microbiome. Clinical evidence suggests it can improve liver function, reduce inflammation, and support faster recovery, making it a valuable adjunct or alternative to conventional treatments.

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ICGH 2025-126

Category: 16.2 Inflammation and inflammatory mechanisms

Gut Microbiota and Gastrointestinal Diseases Risk in Smokers: Narrative Insights

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Introduction: Smoking is a global epidemic that causes many deaths in the world. Harmful chemicals in cigarettes affect various organs and play a role in the development of various diseases by causing dysbiosis. The aim of this article is to investigate the effect of smoking on the composition of the intestinal microbiota and its role in the onset and progression of gastrointestinal diseases.

Materials and Methods: A narrative review was performed through PubMed, Scopus, and Web of Science using keywords related to smoking, gut microbiota, and gastrointestinal diseases. Relevant studies were screened and narratively synthesized.

Results: Smoking reduces beneficial bacteria such as *Lactobacillus*, *Bifidobacterium*, and *Akkermansia* while promoting the growth of harmful taxa such as *Bacteroides* and *Enterobacteriaceae*. These changes disrupt short-chain fatty acid production and impair the intestinal mucosal barrier, leading to chronic inflammation and dysregulated immune responses.

Conclusion: Smoking cessation can partially restore microbial balance and mitigate disease burden. Understanding the interplay between smoking and the gut microbiome may inform novel strategies for prevention and treatment of smoking-related gastrointestinal disorders.

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ICGH 2025-127

Category: 16.2 Inflammation and inflammatory mechanisms

The Impact of *Blautia* spp. on Gastrointestinal Diseases: Current Evidence and Perspectives

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Introduction: *Blautia* constitutes a significant proportion of the healthy gut microbiota. This article investigates the biological role of the genus *Blautia* in human health, with particular emphasis on its contribution to physiological homeostasis, its association with metabolic, digestive, and neurological disorders, and the probiotic potential of its constituent species.

Materials and Methods: A narrative review was performed through PubMed, Scopus, and Web of Science without time restrictions. Keywords included “*Blautia* spp.”, “gut microbiota”, and “gastrointestinal diseases”. Relevant studies were screened, and evidence was synthesized narratively to outline the role of *Blautia* spp. in

gastrointestinal health and disease.

Results: A reduced abundance of *Blautia* is associated with diseases such as obesity, type 2 diabetes, nonalcoholic fatty liver disease, irritable bowel syndrome, inflammatory bowel disease, gastrointestinal cancers, and neurological disorders such as Alzheimer’s and Parkinson’s. In addition, species such as *B. producta* and *B. wexlerae* have shown significant therapeutic effects in animal studies, particularly in reducing inflammation and improving metabolic disorders.

Conclusion: As a key member of the gut microbiota, the genus *Blautia* plays a pivotal role in maintaining health and preventing disease. Current evidence supports its potential utility as a biomarker for disease diagnosis and as a promising candidate for probiotic development. Nonetheless, well-designed clinical studies are required to validate its therapeutic efficacy.

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ICGH 2025-128

Category: 16.3 Gastrointestinal infections

Unraveling the Viral and Genetic Interplay: HPV, Polyomavirus, and IL-6 in the Landscape of Gastric Cancer

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Introduction: Gastric cancer ranks among the most prevalent forms of cancer globally and is considered a lethal disease. Various risk factors contribute to its development, including viral pathogens and inflammatory cytokines. Compared to other viral agents, investigations into the relationship between papillomaviruses and polyomaviruses oncogenes with gastric cancer, as well as their connection to the interleukin 6 gene, are still relatively scarce. Therefore, our research aimed to investigate the expression patterns of these viral oncogenes and their correlation with interleukin 6 gene expression in gastric tumor tissues and adjacent healthy tissues.

Materials and Methods: A total of 100 samples of fresh gastric cancer tissue as case and 100 samples of adjacent healthy tissue as control samples were collected. Initially, DNA and RNA was extracted from the samples, followed by the application of real-time PCR to verify the presence of the targeted viruses within those samples. Ultimately, the

expression levels of oncogenes and the interleukin 6 gene along with the association between them were assessed in samples.

Results: Among all the samples, the presence of HPV, JC, and BK genomes was observed in 18, 32, and 1 of the samples, respectively. A significant proportion of the cases, specifically 72% of those positive for HPV and 81% of those positive for JC, were associated with tumor samples, whereas the occurrence in healthy adjacent tissue samples was considerably lower. Viral oncogene expressions analysis revealed that the expression levels of E6 and E7 in tumor tissue were significantly higher. (P-value=0.002) Additionally, further analysis revealed an increase in the expression levels of the interleukin 6 gene within gastric tumor tissue. (P-value=0.002) Finally, a significant association was observed between the expression levels of the HPV E6 and E7 oncogenes and interleukin 6 gene within tumor tissue. (P-value=0.04, P-value=0.03)

Conclusion: Our study highlights the possible correlation between the expression patterns of HPV E6 and E7 oncogenes and their involvement in the development of gastric cancer, alongside their relation to IL-6 gene expression within tumor tissues.

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Category: 16.3 Gastrointestinal infections

Molecular diagnosis and genotype analysis of *Blastocystis hominis* in symptomatic children by PCR-sequencing in Southeastern Iran: A case-control study

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Introduction: *Blastocystis hominis* is a common intestinal protozoon with worldwide distribution. It does not have a dedicated host and since it is common between humans and most animals It can be transmitted from animal species to humans. It is common in seemingly healthy people with no intestinal symptoms, as well as in people with symptoms. Few research has been done on the incidence of *Blastocystis* in children with and without symptoms and there is few information about the relationship between

genotypes and clinical signs .Therefore, this study aimed molecular diagnosis and genotype analysis of *Blastocystis hominis* in symptomatic children by PCR-sequencing

Materials and Methods: Stool samples of 150 children between the ages of 2-18 including 50 samples with gastrointestinal symptoms (in the case group) and 100 similar samples of children without gastrointestinal symptoms (in the control group) who were referred to the teaching hospitals of Mashhad University of Medical Sciences between October 2020 and April2021 was collected. First, stool test was performed by direct slide and formalin ethyl acetate to identify parasitic agents. Then DNA was extracted from the collected samples and then molecular tests were performed using specific primers and at the end of the positive samples were sequenced to determine the type of parasite subtypes.

Results: Out of 150 samples, including 50 samples of children with gastrointestinal symptoms and 100 samples of children without gastrointestinal symptoms, only 6 cases in symptomatic children and 7 cases in asymptomatic children were positive for *Blastocystitis hominis* by molecular PCR and subtypes were obtained. ST1 was determined in the case group and ST 1-2-3-7 in the control group. The most common subtype in two groups was ST1. The most common gastrointestinal symptom in the symptomatic group was abdominal pain.

Conclusion: ST1 was the most common subtype in both groups of children with and without gastrointestinal symptoms. Due to the existence of different subtypes of this parasite in different regions, it seems that by using the pattern of subtypes obtained from the parasite, in future studies, the relationship between clinical symptoms and ways of transmission of this parasite can be discussed and studied

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ICGH 2025-130

Category: 16.3 Gastrointestinal infections

Gastric Cancer from a Viral Perspective: Prevalence and Impact of Epstein-Barr Virus and Human Papillomavirus on Tumor Characteristics and Tumor Suppressor Gene Expression

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Introduction: Gastric cancer is the sixth most common cancer and the fourth leading cause of cancer death worldwide. The roles of Epstein-Barr virus (EBV) and Human Papillomavirus (HPV) in the pathogenesis of gastric cancer (GC) remain subjects of considerable investigation.

Materials and Methods: In this study, we analyzed 100 gastric cancer specimens and 100 normal tissue samples to assess the prevalence of EBV and HPV and their impact on tumor suppressor gene expression. Polymerase chain reaction (PCR) and real-time quantitative techniques were employed to detect viral presence, revealing EBV in 18% of gastric cancer samples and HPV in 13%. Notably, EBV-positive samples were significantly associated with lower tumor grades and stages, and showed a negative correlation with metastasis. In contrast, HPV-positive samples were more frequently observed in advanced tumor stages and higher grades.

Results: The expression patterns of key tumor suppressor genes, including p53, retinoblastoma (RB), and tumor necrosis factor- α (TNF α), were evaluated. EBV infection was correlated with reduced expression of p53 and an upregulation of TNF α levels, while HPV infection was linked to a decrease in both RB and p53 expression levels. Importantly, co-infection with both EBV and HPV resulted in more pronounced alterations in p53 expression.

Conclusion: These findings highlight distinct mechanisms through which EBV and HPV contribute to gastric cancer development. EBV appears to influence tumor progression by modulating p53 and TNF α expression, whereas HPV affects tumor biology through alterations in both RB and p53 pathways. Taken together, these results underline the critical roles of EBV and HPV in the molecular landscape of gastric cancer, emphasizing the need for further investigations into their contributions to tumor biology, progression, and potential implications for targeted therapies.

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ICGH 2025-131

Category: 16.3 Gastrointestinal infections

Tracing Epstein-Barr Virus in Gastric Cancer: A Dual Analysis of Tissue and Blood

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Introduction: Epstein-Barr virus-associated gastric carcinoma (EBVaGC) is a unique subtype of gastric carcinoma (GC) that

accounts for roughly 9% of all cases globally. This research aimed to compare EBV prevalence in tissue and blood samples from GC-confirmed individuals to a control group.

Materials and Methods: The research comprised 50 GC patients and matched non-GC controls. Blood and tissue biopsy samples were taken and sent to the lab. Real-time PCR was used to identify EBV DNA, and other data was gathered, including demographic and lifestyle factors for both groups and information on the type, grade, stage, and metastasis in the case group. The data were statistically examined using the proper tools and tests

Results: EBV was found in 14% of GC patients and 4% of controls. Two of the seven EBV-positive GC patients had the virus found only in their blood samples. Analysis of demographics and lifestyle factors found no significant differences between EBV-positive and EBV-negative groups; however, EBVaGC was more prevalent in males over 50 with lower educational attainment. All EBVaGC patients had adenocarcinomas, with a greater incidence of early-stage ($p = 0.015$) and lower-grade tumors ($P < 0.0001$) than EBV-negative GC.

Conclusion: While the data indicate a distinct clinical picture for EBVaGC, further research with larger cohorts and EBV load tests is required to understand EBV's function in GC and the implication of new methods, including blood samples for early diagnosis and treatment approaches

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ICGH 2025-132

Category: 19.2 Endoscopy - Colon

Effect of SMS reminders to colonoscopy candidates on bowel-preparation quality; a clinical trial

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Introduction: Adequate bowel preparation is essential for diagnostic accuracy, procedure safety, and overall quality in colonoscopy. Despite standardized split-dose regimens and written instructions, preparation quality remains suboptimal in many settings. Mobile health (mHealth) interventions such as short-message-service (SMS) reminders may improve patient adherence and cleansing quality, but existing evidence is heterogeneous. This randomized controlled trial evaluated the effect of structured SMS reminders on bowel-preparation quality using validated scoring tools.

Materials and Methods: In this single-center prospective

randomized trial, 600 adult outpatients scheduled for colonoscopy were assigned to either an SMS reminder group (n = 300) or a standard education group receiving only a paper pamphlet (n = 300). The SMS group received six automated Persian-language reminders delivered at specific intervals 48 hours before the procedure. Bowel preparation quality was assessed by blinded endoscopists using the Boston Bowel Preparation Scale (BBPS; 0–9) and the Ottawa Bowel Preparation Scale (0–14). Adequate preparation was defined as BBPS ≥ 6 and Ottawa ≤ 5 . Data were analyzed using t-tests, χ^2 tests, and multivariate logistic regression.

Results: The SMS group achieved significantly higher mean total BBPS scores (7.39 ± 0.66 vs. 6.68 ± 0.65 ; $p < 0.0001$) and significantly lower Ottawa scores (3.48 ± 0.97 vs. 4.29 ± 1.05 ; $p < 0.0001$). Adequate preparation was more frequent in the SMS group based on both BBPS (98.3% vs. 85.7%) and Ottawa criteria (95.7% vs. 74.7%). Improvements were consistent across colon segments and demographic subgroups.

Conclusion: Structured SMS reminders significantly improved bowel-preparation quality compared with standard written instruction alone. SMS-based reinforcement represents a low-cost, scalable strategy to enhance colonoscopy quality and may be incorporated into routine pre-procedure education.

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ICGH 2025-133

Category: 19.3 Endoscopy - ERCP

Predicting Post-ERCP Pancreatitis Using Machine Learning: Risk Stratification and Feature Importance Analysis

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Introduction: Endoscopic retrograde cholangiopancreatography (ERCP) is a key diagnostic and therapeutic procedure for managing pancreatobiliary disorders. Despite its utility, the procedure carries potential complications, even in experienced hands. The most common adverse event associated with ERCP is post-ERCP pancreatitis (PEP), which occurs in approximately 10.2% of patients, with an increased incidence of 14.1% among high-risk individuals. Multiple patient- and procedure-related risk factors have been identified for PEP. Nevertheless, despite in understanding these risk factors, PEP remains

frequently unpredictable. Consequently, novel strategies for predicting this adverse event are urgently needed. Developing machine learning (ML) models to predict PEP risk, with the aim of improving peri-procedural risk assessments and ultimately allowing targeted prevention strategies.

Materials and Methods: This study was performed using data from an existing prospective ERCP registry. Baseline and follow-up data were collected for patients with native papilla who underwent ERCP between 2022 and 2024 at a tertiary referral center in Iran. Patients < 18 years old, those who were pregnant, or those with altered luminal gastrointestinal anatomy, unsuccessful biliary cannulation, chronic pancreatitis, an ampullary mass, or pancreatic duct (PD) stent placement were excluded. PEP diagnosis was confirmed through a prospective case review using revised Atlanta classification criteria. The CatBoost model was used to analyze the importance of all features. From this analysis, 19 features were identified as contributing to PEP risk. Twenty-five feature sets were then created, each containing between 5 and 19 features. A CatBoost model was trained on each feature set, and the model with the highest area under the receiver operating characteristic curve (AUC-ROC) was selected for further evaluation on an independent validation set. Two risk cut-offs were defined based on risk probability distributions and expert knowledge, dividing patients into low-, borderline, and high-risk categories. SHapley Additive exPlanations (SHAP) analysis determined the importance of the feature.

Results: Of 1,330 screened patients, 1,190 met the inclusion criteria, and 170 (14.3%) developed PEP. The best performing CatBoost model (Figure 1a-b) included eight features: age, sex, abnormal papilla morphology, PD cannulation, difficult cannulation, abnormal bilirubin levels, common bile duct diameter, and successful stone extraction. This model achieved an AUC-ROC of 0.688 (95% confidence interval (CI): 0.647–0.718), sensitivity of 0.704 (95% CI: 0.643–0.738), specificity of 0.672 (95% CI: 0.614–0.708), a positive predictive value (PPV) of 0.265 (95% CI: 0.236–0.292), and a negative predictive value (NPV) of 0.920 (95% CI: 0.889–0.948). The calibration curve (Figure 1c) demonstrated good alignment between predicted probabilities and observed outcomes. Stratification into low-, borderline-, and high-risk groups (Figure 1d) showed a clear gradient in PEP incidence (high-risk: 40%, low-risk: 5%). SHAP analysis revealed complex, asymmetrical, nonlinear interactions among the

features (Figure 2).

Conclusion: We have developed an ML model that creates meaningful PEP risk assessments using readily available clinical data. ML algorithms were used to elucidate the complex relationships among clinical predictors of PEP. Future work is needed to validate the model performance on external and prospective data.

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ICGH 2025-134

Category: 19.3 Endoscopy - ERCP

Personalized Prediction of Post-Endoscopic Retrograde Cholangiopancreatography Pancreatitis Using Machine Learning Algorithms: A Multicenter Study in Northern Iran

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Introduction: Endoscopic retrograde cholangiopancreatography (ERCP) is the main therapeutic procedure for managing pancreaticobiliary disorders. However, post-ERCP pancreatitis (PEP) is the most common and serious complication of this procedure, occurring in 3.5–9.7% of patients. Early identification of patients at high risk for PEP allows the implementation of preventive strategies. Recognizing low-risk individuals also helps avoid unnecessary interventions, imaging, and hospitalizations. This leads to a more efficient use of healthcare resources.

Materials and Methods: We developed and externally validated a predictive model for PEP using advanced machine learning algorithms. In this multicenter study, data from 1,026 patients undergoing ERCP at three tertiary centers in Gorgan between July 2017 and May 2024 were analyzed. A comprehensive set of predictors, grouped into five domains including patient characteristics, laboratory factors, comorbidities, ERCP indications, and procedural factors was collected. The major papilla morphology was determined by the endoscopist prior to cannulation, using a standardized classification system, and was included as a key anatomical predictor in the model. A series of machine learning algorithms were developed and evaluated on an

independent external test set.

Results: The extreme gradient boosting model achieved strong generalizability with an accuracy of 0.91, specificity of 0.93, and AUC of 0.91. Difficult cannulation, inadvertent pancreatic duct cannulation, precut sphincterotomy, younger age, female sex, and papillary morphology were identified as the key predictors. Papilla morphology types II (small or flat, diameter <3 mm), IIb (multiple hanging hooding folds), and IV (folded/protruded) were highly associated with an increased risk of PEP, whereas type D (associated with periampullary diverticulum) appeared to be a protective factor.

Conclusion: The machine learning-based PEP risk prediction model demonstrated robust generalizability using routinely available pre- and intra-procedural variables. It may serve as a decision-support tool for risk stratification and prevention of PEP, highlighting the need to bridge clinical and artificial intelligence research.

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ICGH 2025-135

Category: 20.1 Biliary and pancreatic stenting

Endoscopic Papillary Balloon Dilation Alone versus Endoscopic Sphincterotomy Alone for the Removal of Common Bile Duct Stones: A Randomized Clinical Trial

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Introduction: ERCP is the primary treatment for choledocholithiasis. Evidence on the efficacy and safety of different ERCP techniques remains limited and inconsistent. This study aimed to compare the efficacy and safety of isolated EPBD versus EST in clearing CBD stones.

Materials and Methods: In this randomized clinical trial, 80 patients aged 18–80 years with CBD stones measuring 5–20 mm were assigned in a 1:1 block design to either EPBD (n = 40) or EST (n = 40). The primary outcome was complete stone clearance in a single ERCP session, and the secondary outcome was early procedure-related

complications. Data were analyzed using Stata/SE 14.2, with modified Poisson regression applied to evaluate predictors of complete stone removal.

Results: The mean age of participants was 59.6 ± 17.6 years, and 48.7% were male. Complete CBD stone clearance in a single ERCP session was achieved in 90% of patients in both groups ($p = 1$). Post-ERCP pancreatitis occurred in 5% of the EPBD group and 2.5% of the EST group, with no significant difference ($p = 0.556$). No cases of bleeding, cholangitis, or perforation were reported. After adjusting for age, BMI, sex, stone size& number, and treatment modality, only stone size was significantly associated with clearance. Stones ≥ 10 mm were approximately 20% less

likely to be cleared compared to stones <10 mm (Adjusted Risk Ratio [ARR]: 0.81; 95% CI: 0.67–0.97; $p = 0.027$). A sensitivity analysis explored the interaction between treatment modality and stone size; although not statistically significant, clearance of stones ≥ 10 mm was higher with EPBD than EST (86% vs. 73%).

Conclusion: EPBD and EST showed comparable efficacy and safety. EPBD was more successful in clearing larger stones, though this difference was not statistically significant. Future studies with larger sample sizes are recommended to further evaluate these differences and long-term complications

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