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Case Report

Upper Gastrointestinal Bleeding Caused by Hepatocellular Carcinoma Invasion to Stomach And Duodenum: A Rare Case ReportAnd Duodenum: A Rare Case Report

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ABSTRACT

Hepatocellular carcinoma (HCC) can invade the gastrointestinal (GI) tract and cause GI bleeding. Although HCC invasion to the GI tract is rare, its prognosis is very poor. Here, we reported a 67-year-old man with GI bleeding manifestation. Esophagogastroduodenoscopy (EGD) showed lesions in gaster and duodenal, while abdominal CT confirm a solid epigastric mass with invasion to gaster. We performed a laparotomy biopsy, while the diagnosis of HCC was established by histopathological and IHC studies. Because of its difficulty to diagnose and its ability to masquerade as other GI bleeding, it is important to increase awareness about the issue.

Keywords: Hepatocellular Carcinoma, Gastrointestinal Bleeding, Gastrointestinal Invasion

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BACKGROUND

According to GLOBOCAN 2020 data, hepatocellular carcinoma (HCC) is the third leading cause of cancer death. Most of the patients were lately diagnosed by HCC because it has already reached an advanced stage at diagnosis (1). About 30% to 50% of the cases, HCC can spread to extrahepatic. HCC also can invade the gastrointestinal (GI) tract although it only occurs in about 0.5–2% of all HCC cases(2).

The overall survival rate of HCC has improved significantly in the last 30 years(3). Therefore, early diagnosis of HCC is required to manage HCC as soon as possible. HCC with GI tract invasion may have non-specific symptoms or endoscopic features. Among 49% of HCC with GI invasion cases have GI bleeding(2). An endoscopic examination should be performed to distinguish with variceal or another gastric bleeding. Histopathology and radiology examination may be more specific to diagnose GI tract invasion caused by HCC(2). Because GI tract invasion caused by HCC is a rare event, it is important to delineate proper diagnosis and management of the case.

CASE REPORT

A 67-year-old man with massive hematemesis was admitted to our emergency department in March 2023. He also felt severe pain at epigastric and he felt nausea, so his oral intake was getting worse in the last month. He had weight loss, about 5 kilograms in the last month. A mass of about 12 cm in size was palpable in the upper abdomen. He had anemia (hemoglobin 3.8 g/dl), severe hypoalbuminemia (Albumin 2.6 g/dl), and was classified as Child Pugh B (Score 7). Hepatitis B surface antigen and hepatitis C antibody were not detected. Alpha-fetoprotein (AFP) was normal.

Ultrasonography (USG) demonstrated a heteroechoic lesion in the epigastrium with vascularisation. The lesion showed an extrahepatic mass, but any intrahepatic mass was not demonstrated. Esophagogastroduodenoscopy (EGD) was performed 3 days after admission. We found multiple gastric ulcer Forrest III and giant ulcer bulbous duodenum from EGD (Figure 1). There was no intervention therapy needed because no active bleeding was visualized when EGD was performed.

We performed a CT scan of triple phase abdomen. CT scan of triple phase abdomen demonstrated a solid mass of caudate lobe of the liver, suggestive of hepatocellular carcinoma. There was also found a gastric infiltration by HCC which was demonstrated by a gastrohepatal fistule and free air in the mass (Figure 2A). An intrahepatic bile duct (IHBD) dilatation and portal vein thrombus were also found in the CT scan.

The Patient was admitted again two weeks later because he was planned for a laparotomy biopsy. A laparotomy biopsy was performed to confirm the diagnosis. We found a solid mass in the epigastric which invades the gaster and small bowel (Figure 2B). Then we did a core biopsy and we did an investigation in the microscope. Microscopically, we found epithelial tumors and trabeculated, as like hepatocyte. There were also sinusoids and central venous from the liver. Polygonal cells with abundant cytoplasm and rounded nuclei with coarse chromatin were also found microscopically (Figure 3A). Immunohistochemistry (IHC) showed a positive for HEP-PAR1 (Figure 3B). Five days after admission, the patient suffered pneumonia and died two days later because of respiratory failure.

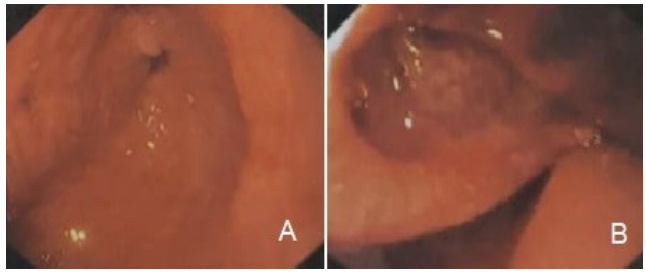

Figure 1. Endoscopy showed multiple gastric ulcers (A) and giant ulcer bulbous duodenum (B).

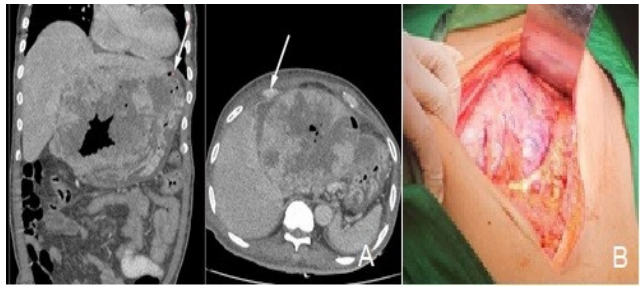

Figure 2. A triple-phase abdominal CT scan showed gastric infiltration of the HCC (A). The macroscopic view demonstrated a solid mass in the epigastric invading gaster and small bowel (B).

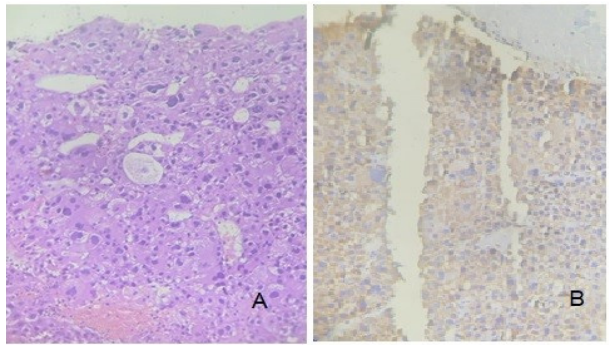

Figure 3. Histological view of specimen from laparotomy biopsy (A). Immunohistochemistry showed a positive for HEP-PAR1 (B).

DISCUSSION

There were some cases reported invasion of HCC to the GI tract and causing GI bleeding (2, 4). This case reported a 67-years-old man without signs of cirrhosis. Then, we performed an abdominal CT scan and we found an HCC appearance from wash-in wash-out phase. According to AASLD 2023 guidelines, when a patient does not have cirrhosis or hepatitis, diagnosis of HCC must be confirmed by pathology(5). Therefore, we did a laparotomy biopsy to confirm the diagnosis of HCC.

A histology specimen demonstrated that there were epithelial tumors, trabeculated sinusoids, also polygonal cells with rounded nuclei and coarse chromatin. This histopathological view is a HCC appearance (6,7). There was a recommendation of using immunohistochemistry in HCC diagnosis by AASLD and EASL Guidelines (5,8). Immunohistochemistry using HEP-PAR1 has high sensitivity about 84% in all HCC cases(6). Using HEP-PAR1 is recommended to distinguish the origin of the tumor in a doubtful case (7).

Gastrointestinal involvement caused by HCC invasion has a poor prognosis. It is counted only about 7.3 months overall survival rate of all patients(2). Early diagnosis is important to a proper management. On the other hand, diagnosing HCC invasion in the GI tract was difficult. Endoscopic examination is important to identify GI lesions and distinguish them from varises bleeding(8). An abdominal CT is helpful in identifying HCC invasion to the GI tract. Contrast-enhanced CT may display hyperenhancement of lesions in the arterial phase(9) or it can display a hepatogastric fistula(4). Here, we reported a hepatogastric fistula that was demonstrated by intra-mass air foci in abdominal CT, as the previous case report also reported(4).

In this case, the patient did not present with any signs and symptoms of chronic liver disease. The diagnosis of HCC is established by histopathological and IHC studies. The abdominal CT showed a mass suggestive to HCC and there was evidence of gastric invasion by the mass. Gastrointestinal bleeding because of direct HCC invasion to the GI tract is rare. Because HCC invasion to the GI tract is difficult to diagnose and its ability to masquerade as other GI bleeding, it is important to give attention to this issue.

CONFLICT OF INTERESTS

The authors declare no conflict of intrest related to this work.

REFRENCES:

1. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA Cancer J clin* 2021;71(3):209-49. doi: 10.3322/caac.21660
2. Urhut CM, Sandulescu LD, Streba L, Iovanescu VF, Sandulescu SM, Danoiu S. Hepatocellular Carcinoma with Gastrointestinal Involvement: A Systematic Review. *Diagnostics (Basel, Switzerland)* 2022;12(5). doi: 10.3390/diagnostics12051270
3. Ding J, Wen Z. Survival improvement and prognosis for hepatocellular carcinoma: analysis of the SEER database. *BMC cancer* 2021;21(1):1157. doi: 10.1186/s12885-021-08904-3
4. Bale A, Shetty S, Shetty A, Balaraju G, Pai CG. Upper Gastrointestinal Bleed Due to Invasive Hepatocellular Carcinoma and Hepato-Gastric Fistula. *J Clin Exp Hepatol*. 2018;8(1):104-105. doi: 10.1016/j.jceh.2017.09.006.
5. Singal AG, Llovet JM, Yarchoan M, Mehta N, Heimbach JK, Dawson LA, et al. AASLD practice guidance on prevention, diagnosis, and treatment of hepatocellular carcinoma. *Hepatology (Baltimore, Md)* 2023. doi: 10.1097/HEP.0000000000000466
6. Renne SL, Sarcognato S, Sacchi D, Guido M, Roncalli M, Terracciano L, et al. Hepatocellular carcinoma: a clinical and pathological overview. *Pathologica* 2021;113(3):203-17. doi: 10.32074/1591-951X-295.
7. Schlageter M, Terracciano LM, D'Angelo S, Sorrentino P. Histopathology of hepatocellular carcinoma. *World J Gastroenterol*. 2014;20(43):15955-64. doi: 10.3748/wjg.v20.i43.15955.
8. Galle PR, Forner A, Llovet JM, Mazzaferro V, Piscaglia F, Raoul J-L, et al. EASL Clinical Practice Guidelines: Management of hepatocellular carcinoma. *J Hepatol* 2018;69(1):182-236. doi: 10.1016/j.jhep.2018.03.019
9. Park MS, Kim KW, Yu JS, Kim MJ, Yoon SW, Chung KW, et al. Radiologic findings of gastrointestinal tract involvement in hepatocellular carcinoma. *J Comput Assist Tomogr*. 2002;26(1):95-101. doi: 10.1097/00004728-200201000-00014.