Case Report

Duodenal Kissing Ulcer (Sealed Anterior Perforated Duodenal Ulcer Combined with Hemorrhagic Posterior Ulcer): Report of a Case

Vahedian J [1], Keramati MR [2], Hashemi MH [3] , Vasigh M [2]

[1] Associate Professor ,Department of Surgery, Iran University of Medical Sciences,Tehran,Iran

[2] Researcher, Department of General Surgery, Iran University of Medical Sciences,Tehran,Iran

[3]Associate Professor,Department of Gastroenterology, Iran University of Medical Sciences,Tehran,Iran

ABSTRACT

Peptic ulcer disease and its complications have long been studied but the coexistence of two major complications in a kissing ulcer is uncommon. We present our experience with this entity and review the related literature. A 27 year old man was suffering from concomitant major complication of duodenal kissing ulcer, huge anterior perforation and uncontrolled posterior bleeding, presenting as hemorrhagic shock to emergency department. The posterior ulcer containing pulsatile bleeding from gastroduodenal artery oversewed and the ruptured anterior ulcer converted to pyloroplasty followed by truncal vagotomy. Presence of anterior perforated duodenal ulcer in a patient of bleeding peptic ulcer is an uncommon presentation that needs a high degree of suspicious for preoperative and intraoperative diagnosis.

Keywords: Duodenum, Perforation, Bleeding

Govaresh/ Vol. 15, No.3, Autumn 2010; 243-246

INTRODUCTION

Perforation is the second most common complication of peptic ulcer disease and surgery is almost always indicated(1,2). Patients with acute perforation and gastrointestinal blood loss (either acute or chronic) should be suspected of having a posterior kissing ulcer, and the appropriate definitive operation should then be performed. The options for surgical treatment of perforated duodenal ulcer are simple patch closure, patch closure and highly selective vagotomy, or vagotomy plus drainage (3).

Indications of operation for bleeding peptic ulcer disease are : massive hemorrhage that is unresponsive to endoscopic control and transfusion requirements of more than 4 to 6 units of blood , despite attempts at endoscopic control , lack of availability of blood for transfusion, repeat hospitalization for bleeding duodenal ulcer, and concurrent indications for surgery such as perforation or obstruction(4).

We report a coincidence of perforation and hemorrhage in a patient with duodenal ulcer that was not diagnosed preoperatively. The patient underwent surgical operation due to bleeding nonresponsive to endoscopic management. The importance of this report is that not only the clinical scenario of perforation in a bleeding duodenal ulcer can be obscured due to symptoms of hemorrhage, but also management of each of these complications differ each other. That is because, management of a perforated duodenal ulcer is almost always surgery, but most of bleeding ulcers are managed endoscopically.

Corresponding author:
Firoozgar hospital, Behafarin Street, Karimkhan Ave. Vali-e-asr square, Tehran 1593748711, Iran
Telfax: +98 21 82141321
Email: dr_morezak@yahoo.com
Received: 27 Oct. 2010
Edited: 5 May 2011
Accepted: 7 May 2011

CASE REPORT

A 27 year-old man presented to the emergency ward, Firoozgar hospital, Iran University of medical sciences, with fresh bloody hematemesis and in shock state. The patient had a history of epigastric pain since the day be-

fore admission which was gradually increased. After proper hydration, he underwent esophagogastroduodenoscopy (EGD) which revealed fresh blood in stomach and clot in the first duodenal portion. The patient was a cigarette smoker. He did not have any previous history of peptic ulcer disease and did not receive any kind of medication.

On physical examination the temperature was 37 degree Celsius, pulse rate was 120 per minute, and blood pressure was 100/50 mmHg. Conjunctivas were pale and epigastric tenderness in addition to epigastric rebound tenderness was also noted. The abdomen was not distended and no abdominal guarding was noted on physical examination. Laboratory tests detected a hemoglobin level of 6.6 gram/dl, leukocyte count of 18300/µl, platelet count of 521000/µl, prothrombin time (PT) of 12 seconds, partial thromboplastin time (PTT) of 35 seconds, and a creatinine level of 0.9 mg/dl. (Table 1)

The EGD revealed a normal looking esophagus, excessive clot and bloody secretion within stomach, an ulcer with adhered clot in addition to oozing of blood in duodenum (Figure 1). A total of 10 mililiter of diluted adrenalin (1/10000) was injected locally but bleeding could not be controlled.

As a result of continuous hematemesis non-responsive to medical therapy and unstability of vital signs, after intravenous administration of a proton pump inhibitor, intravenous antibiotic, resuscitation with intravenous fluid and transfusion of 2 units of cross-matched packed RBC the patient underwent surgical operation. Following appropriate preparation and drape, an upper midline incision was made on the abdomen. A perforation on anterior wall of duodenum near pylorus measuring 3x3 centimeters was revealed that was sealed with liver completely (Figure 2). A big clot at this site could be seen. After detaching the anterior ulcer from the liver, active pulsatile bleeding from an ulcer located at the posterior wall of pylorus was observed.

The bleeding gastroduodenal artery in the posterior ulcer was ligated using transfixing U suture through the anterior ruptured ulcer (as a duodenotomy). Then, the anterior ulcer converted to Heinke-Mikulikz pyloroplasty followed by a subdiaphragmatic truncal vagotomy. Postoperation course was smooth and uneventful. The patient was discharged in a good medical condition with Helico-bacter Pylori treatment. On follow up for 18 month no abnormal finding was revealed.

DISCUSSION

A combination of anterior perforation and posterior bleeding rarely occurs simultaneously in kissing peptic ulcer disease. The symptoms of bleeding may obscure signs of perforation, delay surgery and contribute to the higher mortality rate. It is reported that 9.9% of patients with bleeding peptic ulcer were found at operation to have an unsuspected perforated duodenal ulcer. The operation mortality in patients with the combined complications was significantly higher (44 %) than that in the patients with bleeding alone (10%) or those with perforation alone (11%) (5).

Simple omental patch closure, patch closure with parietal cell vagotomy, or patch closure with truncal vagotomy and drainage are surgical options for patients with perforated duodenal ulcer. Simple patching of the perforation is recommended in patients with poor medical condition, hemodynamically unstable patients and patients with exudative peritonitis (more than 24 hours of contamination) followed by treatment of Helicobacter-Pylori. If the patient is known to be H-Pylori negative, presents with a chronic history, requires NSAID use, or is thought to be at risk for non-compliance with therapy, adding of parietal cell vagotomy is recommended (6,7).

Table 1: Laboratory values of the patient

Laboratory test	Patient's value	Normal Value	unit
Leukocyte Count	18300	4000-10000	/µl
Hemoglobin	6.6	14-18	gram/dl
Platelet count	521000	140000-440000	/µl
Protrombin Time (PT)	12	12.8-14	seconds
Partial Thromboplastin Time (PTT)	35	21-36	seconds
Creatinine	0.9	0.5-1.5	mg/dl

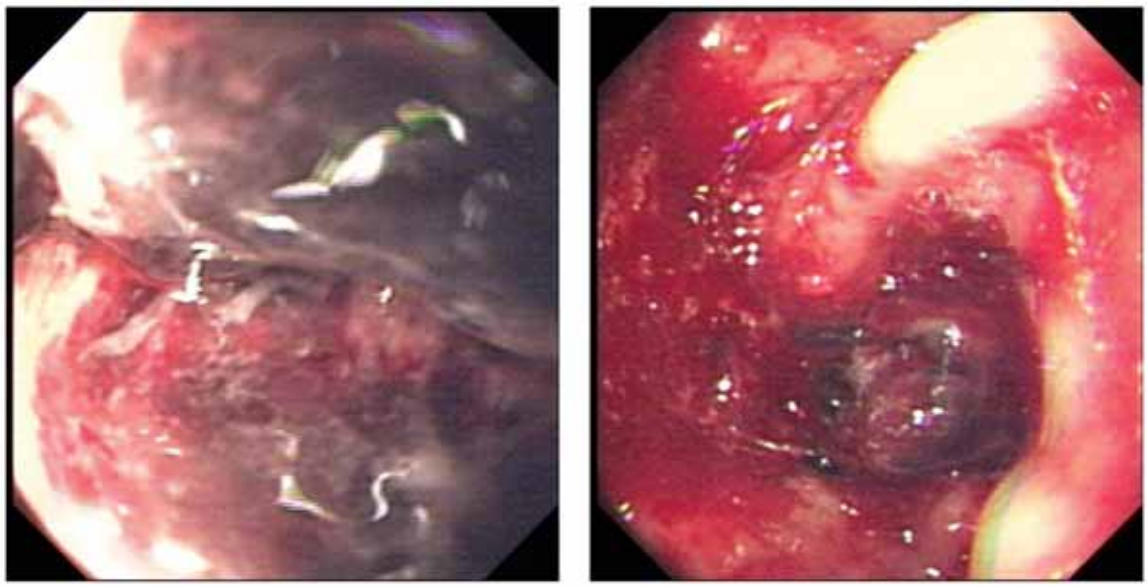

Figure 1: Endoscopic view revealing adhered clot and oozing of blood in duodenum

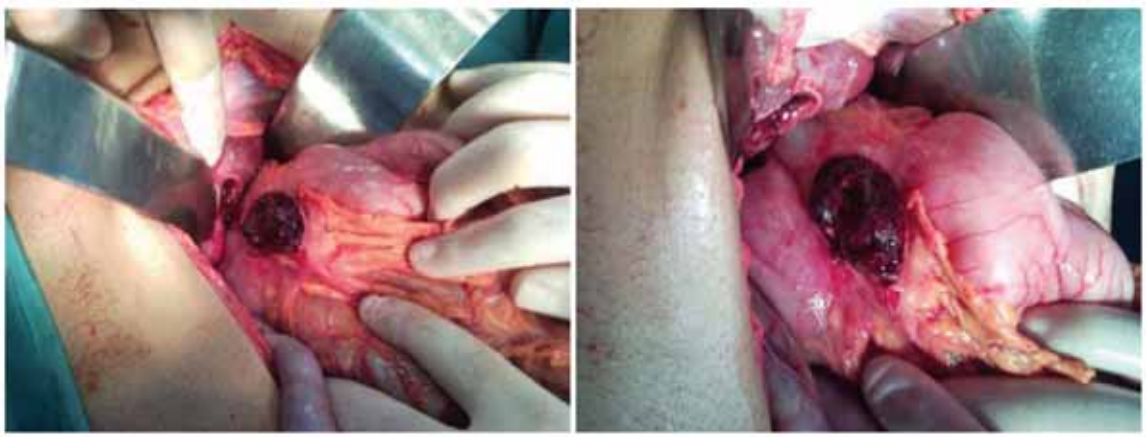

Figure 2: Operative view revealing a big perforated duodenal ulcer which was attached to and sealed with liver completely

In some cases, patients present with a sealed perforation, so that may be successfully managed non-operatively. These patients should be hemodynamically stable and without signs of toxicity. In this situation, upper gastrointestinal radiography needs to demonstrate that the ulcer is indeed sealed(8,9).Endoscopic management of peptic ulcer disease (PUD) complicated by bleeding is feasible in more than 75% of patients. Rebleeding occurs in 10% to 30% of cases, and almost all fatal rebleeding occurs within the first 24 hours. The available evidence suggests that rebleeding can also be managed endoscopically, although in patients who are elderly or have hypotension, large ulcers (lager than 2 centimemters), are usually sicker, more elderly, and more likely to have complications. Because most of the patients are elderly, have bled a significant amount, and have some degree of hypotension, the more time-consuming parietal cell vagotomy is usually not performed(10). Surgery is clearly indicated in patients in whom arterial bleeding can not be controlled at endoscopy (6).

In our case, fortunately the patient was young and did not have any co morbidity. The perforation was sealed completely with liver and he did not have peritonitis. However, in spite of preoperative unresponsive hemorrhagic shock due to bleeding, the anterior perforation converted to pyloroplasty. This case illustrates that there is a possibility of coincidence of two major complications of peptic ulcer disease that should be taken

into consideration. The clinicians should be aware of situations like this and must know that symptoms of a bleeding ulcer may obscure signs of a sealed perforated duodenal ulcer. Not taking this coincidence into consideration may lead us to mismanagement and increase of mortality and morbidity. It is important that a physician dealing with any of these complications be aware of the coincidence of them; because it influences the management and changes the strategy of the treatment.

CONCLUSION

Perforation in bleeding peptic ulcer is an uncommon finding. The presence of fever, leukocytosis and tachycardia despite adequate fluid and blood replacement warrant a suspicious of perforation in patients with bleeding peptic ulcer. In perforated duodenal ulcer with evidence of gastro-intestinal blood loss, an intraoperative search for a posterior kissing ulcer is recommended. If a kissing ulcer is found, an acid reducing operation and suture ligation of the ulcer is indicated.

RERERENCES

1. Munnangi S, Sonnenberg A. Time trends of physician visits and treatment patterns of peptic ulcer disease in the United States. *Arch Intern Med* 1997;157:1489-94.
2. Cohen H. Peptic ulcer and Helicobacter pylori. *Gastroenterol Clin North Am* 2000; 29:775-89.
3. Peterson WL, Graham DY: Helicobacter pylori. In: Feldman M: Sleisenger and Fordtran's Gastrointestinal and Liver Disease. 7th edition. Philadelphia: Saunders; 2002.P.732
4. Dempsey DT : Stomach. In: Brunicardi FC, Andersen DK, Billiar TR, et al. Schwartz Principles of Surgery. 9th edition. United States: McGraw Hill; 2010.P.889-948.
5. Dasmahapatra KS, Suval W, Machiedo GW. Unsuspected perforation in bleeding duodenal ulcers. *Am Surg* 1988;54:19-21.
6. Mercer DW, Robinson EK : Stomach. In: Townsend CM, Beauchamp RD, Evers BM, Mattox KL. Sabiston Textbook of Surgery. 18th edition. Canada: Saunders; 2008.
7. Stabile BE. Redefining the role of surgery for perforated duodenal ulcer in the Helicobacter pylori era. *Ann Surg* 2000;231:159-60.
8. Songne B, Jean F, Foulatier O, Khalil H, Scotté M. Non operative treatment for perforated peptic ulcer: results of a prospective study. *Ann Chir* 2004;129:578-82.
9. Dascalescu C, Andriescu L, Bulat C, Danila R, Dodu L, Acornicesei M, et al. Taylor's method: a therapeutic alternative for perforated gastroduodenal ulcer. *Hepatogastroenterology* 2006;53: 543-6.