

## CASE REPORTS

### PERFORATION OF THE PEPTIC ULCER LOCALIZED IN THE PROXIMAL JEJUNUM – CASE REPORT

ANDRZEJ ŻYLUK, ZBIGNIEW SZLOSSER

Department of General and Hand Surgery, Pomeranian Medical University in Szczecin  
Kierownik: prof. dr hab. A. Żyluk

Non-traumatic perforation of the digestive tract occurs most often in the duodenum and stomach (peptic ulcer), as well as the colon (diverticulitis, cancer or ischemic lesions). Perforation of the small bowel is very rare. The Authors of the study presented a case of proximal jejunum perforation, which occurred in a patient with a history of duodenal peptic ulcer disease. Diagnosis posed no difficulties, and treatment included the excision of the ulceration and suturing of the bowel. The patient recovered without complications and the histological examination failed to reveal the nature of the ulcer. However, based on the medical history, one may suppose that it might be of peptic etiology, which makes this case exceptional.

**Key words:** small bowel perforation, small bowel ulceration, peritonitis

Non-traumatic perforation of the digestive tract occurs most often in the duodenum and stomach (peptic ulcer), as well as the colon (diverticulitis, cancer or ischemic lesions). The most common site of perforation in case of peptic ulcer disease is the duodenal bulb, less often the pylorus and lesser curvature of the stomach. Digestive ulcerations of the retrobulbar part of the duodenum are rarely observed, and its localization in the jejunum is exceptional. Spontaneous, non-traumatic perforation of the small bowel is also rarely observed. Isolated cases of spontaneous perforation have been described in case of patients with Crohn's disease, celiac disease, focal gastric mucous membrane ectopy, and lymphoma infiltration (1, 2). Another, rare cause of small bowel perforation is diverticulitis (Meckel's and others) (3, 4). On the other hand, we found no literature data showing jejunal perforation.

The study presented a rare case of proximal jejunum perforation in a male patient with a history of duodenal ulcer disease, which is evidence of the digestive character of the ulceration.

#### CASE REPORT

A 60-year old male patient was admitted to the Emergency Department, due to severe abdominal pain, which suddenly occurred during the night. The patient had a history of peptic ulcer disease (lasting several years) and reflux esophagitis, confirmed by means of gastroscopy. The endoscopic examination performed three years before the described intestinal perforation showed inflammatory lesions and flat, linear ulcerations localized in the lower 1/3 of the esophagus, as well as hyperemic duodenal bulb mucous membrane with aphtae, without visible ulceration. The patient occasionally received proton pump inhibitors during disease exacerbation. He additionally suffered from bronchial asthma, chronic sinusitis, and psoriasis which remained untreated.

The patient complained of severe epigastric abdominal pain and general weakness. He described the beginning of pain as a sensation of a „stabbing of the knife”, localized in the upper abdomen. The sitting position posed difficulties, nausea and vomiting were absent.

The physical examination showed a board-hard abdomen, significant pain on palpation, positive Blumberg's sign. Peristalsis was absent upon auscultation with the HR of 80/min and BP 130/80.

Faced with such a medical history and clinical presentation the patient was initially diagnosed with peptic ulcer perforation. Imaging and biochemical diagnostics were performed showing the following: the abdominal plain x-ray revealed free subdiaphragmatic gas (fig. 1); confirming perforation, with leucocytosis 16000, CRP < 1 mg/dL, and the amylase level of 280 U. The remaining biochemical results were within normal limits.

The patient was admitted to the Department of Surgery and qualified for emergency surgery. After a short preparation, placement of the stomach tube, and intravenous administration of cephalazolin (1 g) and metronidazole (0,5 g), surgery was initiated. The abdominal cavity was opened by means of the median incision. The peritoneal cavity showed a moderate amount of opaque liquid, but precise control of the duodenum and stomach showed no site of perforation. During assessment of the colon, when transposing the small bowel loops, a perforated ulceration was observed in the jejunum, localized 20 cm from Treitz ligament. The ulceration was 5 mm in diameter and the small bowel in the vicinity was covered with fibrin (fig. 2). Macroscopically, it looked like a perforated peptic ulcer. The site of perforation was excised and single

layer sutures were used during the closure procedure. The collected sample was sent for histopathological examination. The peritoneal cavity was subject to lavage and closure. Due to bronchospasm and problems with ventilation during general anesthesia the patient was admitted to the ICU, and after one day transferred to the Department of Surgery in good general condition. The post-operative course was uneventful, and the patient was discharged from the hospital after six days. The histopathological examination result was as follows: ulceration.

## DISCUSSION

Non-traumatic perforation of the jejunum in a previously healthy adult patient is rarely diagnosed. Considering literature data, similar cases were not observed. The Authors of the study encountered two such cases. The first involved a patient during chemotherapy of acute myeloid leukemia. Jejunal ulceration and its perforation might be considered as a complication of hematological treatment. The second case considered a young patient with Crohn's disease, where perforation was observed in the distal part of the ileum, which is extremely rare. Literature data presented non-traumatic perforation cases associated with the following (5, 6, 7):

- intestinal bacterial infections (tuberculosis, typhoid, cholera),
- presence of ectopic gastric mucous membrane within the bowels,
- tumors (carcinoid, lymphoma),
- inflammatory lesions (Crohn's disease),
- ischemia.



Fig. 1. Abdominal plain X-ray with visible subdiaphragmatic gas



Fig. 2. Site of perforation in the jejunum. Visible fibrin bowel deposits

Perforation was also described in case of the following:

- Meckel's diverticulum (inflammation or presence of gastric ectopy),
- ulceration of the jejunal diverting loop in case of gastroenterostomy after partial stomach resections.

The latter can be regarded as peptic ulcerations caused by the acid gastric contents passing to the jejunum. The above-mentioned complication was not so uncommon during the period when gastric resections were performed in case of peptic ulcer disease recurrence. Currently, such operations are rare, as the mentioned complication. Perforation of the jejunum within Meckel's diverticulum

is rare, although such cases have been described (3).

Literature data described three such cases of jejunal perforation, all dating back to the sixties-eighties of the past century. In all cases perforation was localized in the jejunum (distal part of the small bowel). In one case perforation was associated with gastric ectopy presence, in one, it was caused by ischemia, and in one case the cause remained unknown (5, 6, 7). Considering our patient the character of the ulceration remained undetermined, even after histopathology. However, the long-lasting history of duodenal ulcer disease leads to the assumption that the ulceration might be of peptic etiology, which makes this case exceptional.

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Adress correspondence: 71-252 Szczecin, ul. Unii Lubelskiej 1  
e-mail: azyluk@hotmail.com