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Perforating Duodenal Ulcer in Situs Inversus and Asplenia: A Case Report

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Abstract: *Peptic ulcer is a disease that has long been considered chronic, it is defined anatomically by a loss of substance of the wall of the stomach or duodenum exceeding the muscularis mucosae. It is an emergency that poses difficulties and problems that are still relevant both prognostically and therapeutically. The treatment is surgical except in rare cases or medical treatment remains the choice . We report the case of a patient presents a peritonitis by ulcer perforation with situs inversus with an asplenia . The situs inversus is an infrequent anomaly, the visceral situs inversus can be total or partial. Peritonitis due to peptic ulcer perforation is still one of the most frequent and fearful complications.*

Keywords: peptic ulcer, perforation, situs inversus, asplenia

Abstracts:

gastroduodenal ulcer is a disease that has long been considered chronic, it is defined anatomically by a loss of substance of the wall of the stomach or duodenum exceeding the muscularis mucosae. It is an emergency that poses difficulties and problems that are still relevant both prognostically and therapeutically. The treatment is surgical except in rare cases where medical treatment remains the choice. we report the case of a patient with ulcer perforation peritonitis with situs inversus and asplenia. Situs inversus is an infrequent anomaly, the visceral situs inversus can be total or partial. Peptic ulcer perforation peritonitis is still one of the most feared and frequent complications.

Keywords: gastroduodenal ulcer, perforation, situs inversus, asplenia

Introduction:

Peritonitis is an acute inflammation of the peritoneal serosa that can be either generalized to the large peritoneal cavity or localized [2].
The evolution of peptic ulcer can cause complications, one of the most common of which is perforation. The incidence of perforation is estimated to be between 4 and 14 cases per 100,000 population[1] .
Peptic ulcer is a loss of substance digging more or less deeply into the gastric or duodenal wall. It is the result of an imbalance between the aggression factors and the defense factors in a precise point of the gastric or duodenal mucosa [3] .
During its evolution, it can be responsible for several complications, including perforation, which results in a breach of the stomach and/or duodenum, leading to peritonitis [4].
Peritonitis by peptic ulcer perforation generates a relatively frequent medical-surgical emergency, which requires multidisciplinary management involving clinician, surgeon, radiologist, and resuscitator.Its prognosis is serious if management is delayed with a mortality rate that can reach 80% beyond the first 24 hours [5;6].

Situs inversus, first described by Aristotle in animals and by Fabricius in humans [7]. is an uncommon anomaly with an incidence ranging from one in 4000 to one in 20,000 live births [8].
Visceral situs inversus can be total or partial. Total situs inversus, also known as mirror dextrocardia, is characterized by a heart located on the right side of the midline, while the liver and gallbladder are on the left.
Patients are usually asymptomatic and have a normal life span. The exact etiology is unknown, but an autosomal recessive mode of inheritance has been postulated.

Patient and observation :

45 year old patient, chronic smoker, admitted to the emergency room with acute abdominal pain

the clinical examination finds a tachycardia patient at 110 beats / minn

FR : a 21 cycles / min

Abdomen contracted into wood

Biological check-up: hyperleukocytosis at 24000 with a predominance of PNN, CRP: 230 , hemoglobin at 14

X-ray centered on the domes showing a pneumoperitoneum

After initial conditioning:

2VVP + vascular filling + antibiotic therapies + with intravenous injections of proton inhibitors , SNG , SU

The decision was to explore the patient because of his instability

On exploration: presence of a perforation in the duodenal bulb with a situs inversus

The procedure consisted of a good lavage, aspiration, drainage and suture of the perforation (figure 1,2,3)

The postoperative follow-up was simple

Discussion :

Abdominal situs inversus is an uncommon anomaly with an incidence ranging from one in 4,000 to one in 20,000 live births [8].

Situs inversus usually remains undiagnosed, as in this case, unless it is diagnosed incidentally during the examination of another associated condition.

A diagnostic dilemma arises when pathology occurs in abdominal viscera of unusual location. To select an appropriate surgical incision for abdominal exploration, preoperative recognition of the condition is important. In our case, the diagnosis was made preoperatively and an exploratory laparotomy was performed with a midline supraumbilical incision.

Some congenital anomalies such as polysplenia, asplenia or Kartagener syndrome are known to occur in these patients [9,10]. However, our patient did not have associated asplenia

Various modalities such as electrocardiograms, radiographic studies, CT scans with oral and intravenous contrast, ultrasound and barium studies can be used to diagnose situs inversus [11,12]. In our case, we diagnosed the condition by chest radiography confirming intraoperatively

Isolated cases of situs inversus associated with peptic ulcer [12], ulcer perforation [14], amoebic liver abscess [15], acute cholecystitis [16], cholelithiasis [17,18], acute appendicitis [19], and intestinal obstruction [20] have been reported. To our knowledge, this is one of the few reported cases in the literature of a patient with total situs inversus presenting with perforated duodenal ulcer (Gandhi et al. reported the first case of perforated duodenal ulcer with situs inversus in 1986 [15]).

The diagnosis is easily evoked in front of a young adult male who presents with sudden epigastric pain, associated with abdominal contracture, painful rectal touch, and the presence of pneumoperitoneum on the unprepared abdominal radiograph.

Management of ulcer perforation must be early since postoperative mortality and morbidity increase significantly beyond 24 hours.

The surgical approach calls, depending on the terrain and the experience of the operator, for laparotomy or laparoscopy.

More interest should be given to the prevention of peptic ulcer perforation, given the presence of many predisposing factors.

The ulcer disease must therefore be properly monitored and the hygienic and dietary rules respected.

Conclusion:

A diagnostic dilemma arises whenever abdominal pathology occurs in patients with situs inversus. Although it is an uncommon abnormality, it is important to recognize this pathology preoperatively to select an appropriate surgical incision site for abdominal exploration.

Conflicts of Interest:

The authors declare no conflicts of interest.

Author Contributions:

All authors have read and approved the final version of the manuscript.

Figures:

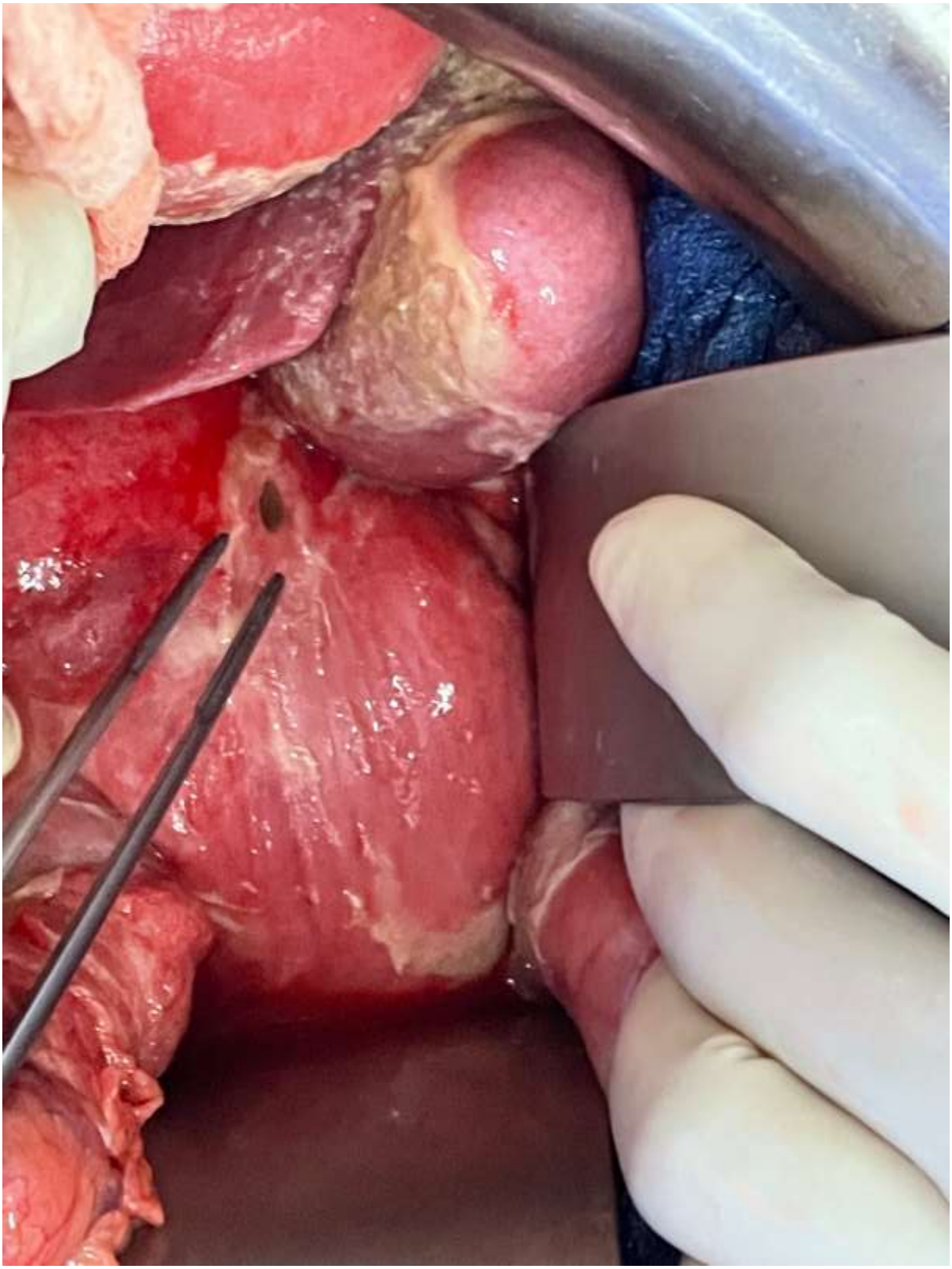

Figure 1: perforation in the duodenal bulb

Figure 2: suture of the perforation

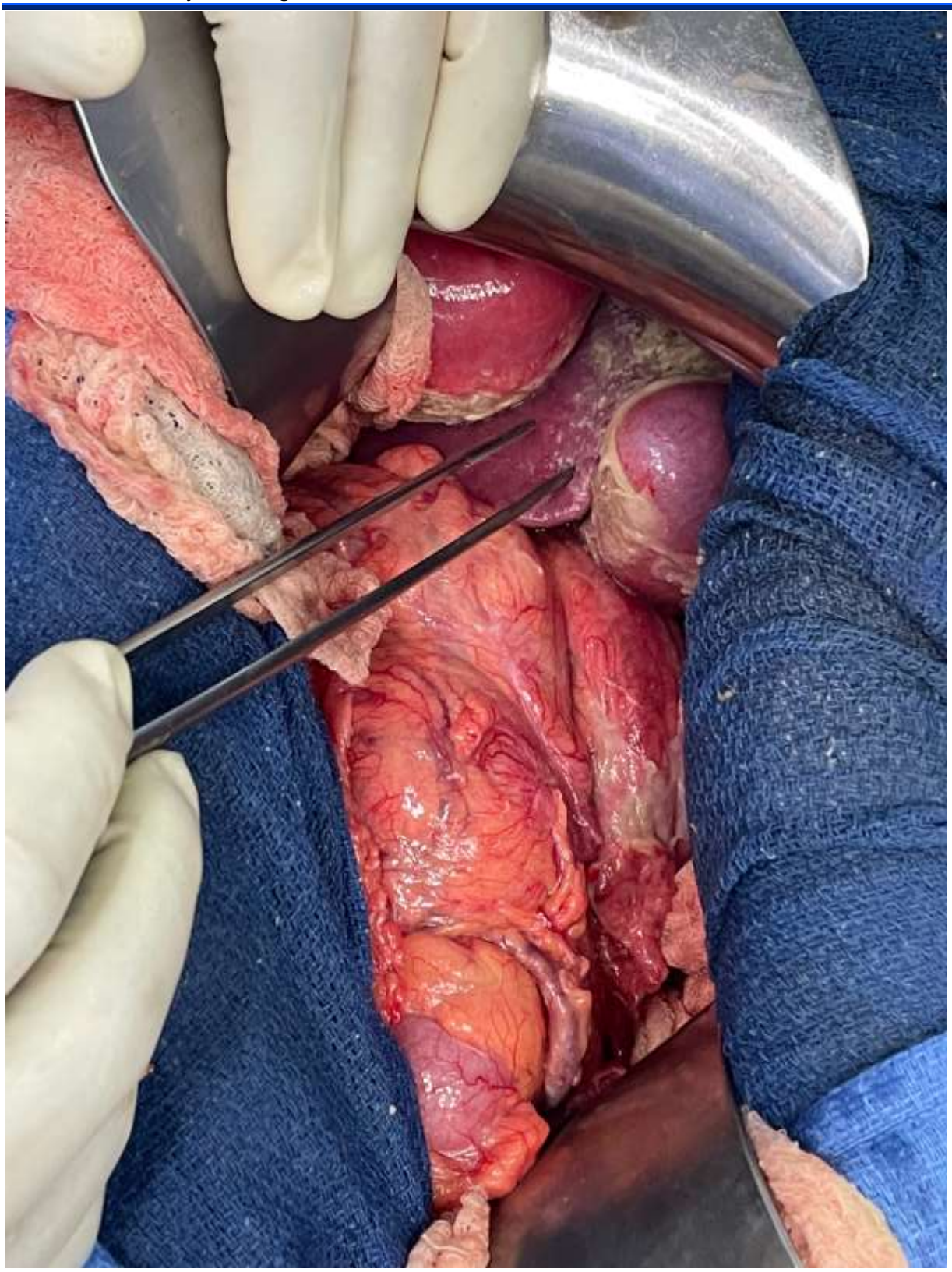

Figure 3: per-operative image showing the gallbladder on the left

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