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Isolated Small Bowel Perforation Discovered During Acute Peritonitis

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Abstract **Case Report**

Small Bowel Perforations (SBPs) due to causes other than trauma and known common etiological factors (mesenteric vascular disease, internal and external hernias, intraabdominal adhesions, inflammatory bowel diseases, and iatrogenic) are also called spontaneous or non-traumatic SBPs, Presentation at the hospital is generally late, and patients are in an impaired physical condition due to diffuse peritonitis, we report the case of acute peritonitis secondary to an isolated ileal perforation discovered in a patient operated on in the surgical emergency.

Keywords: Small bowel perforation, isolated, peritonitis, surgical treatment.

INTRODUCTION

The most frequent causes of (SBPs) include various malignancies, infections, and non-specific inflammation [1]. In Western populations, malignancies are the most frequent aetiological factors, whereas infections, and in particular typhoid fever, are the primary causes in developing populations [1, 2]. Cases that also show inflammation (as assessed histopathologically) that cannot be linked to a specific disease are deemed to have idiopathic or non-specific inflammation [2]. In this article, we have sought to present our case an unusual case of a spontaneous, isolated grelic perforation discovered around the neck of a laparotomy for peritonitis.

CASE REPORT

it is a young patient of 30 years, with no notable pathological history, admitted to the emergency room for diffuse abdominal pain, associated with vomiting progressing since 5 hours from his admission, the physical examination found a conscious, dehydrated patient and feverish at 39, blood pressure of: 10/06 mmHg, pulse 100 per minute, the abdominal examination showed a generalized abdominal defense.

A biological assessment was carried out showed a hyperleukocytosis at 20,000, a CRP at 300, the rest of the biological assessment was normal, an abdominal scanner was carried out showed a pneumoperitoneum, with an intraperitoneal effusion of great abundance and a thickening of the peritoneal leaflets related to peritonitis (Figure-1).

The patient was operated in emergencies, with a median laparotomy which objectified a purulent effusion of 1 liter, withdrawn and aspirated, surgical exploration objectified several false membranes, with the presence of an isolated small bowel perforation of 1 cm located at 1 meter of the ileo-cecale valve (Figure-2), the gesture consisted in a simple suture of the perforation, with abundant washing and drainage

The postoperative consequences were marked by a two-day stay in the intensive care unit, then the evolution was positive clinical and biological, then the island was declared outgoing after 5 days.

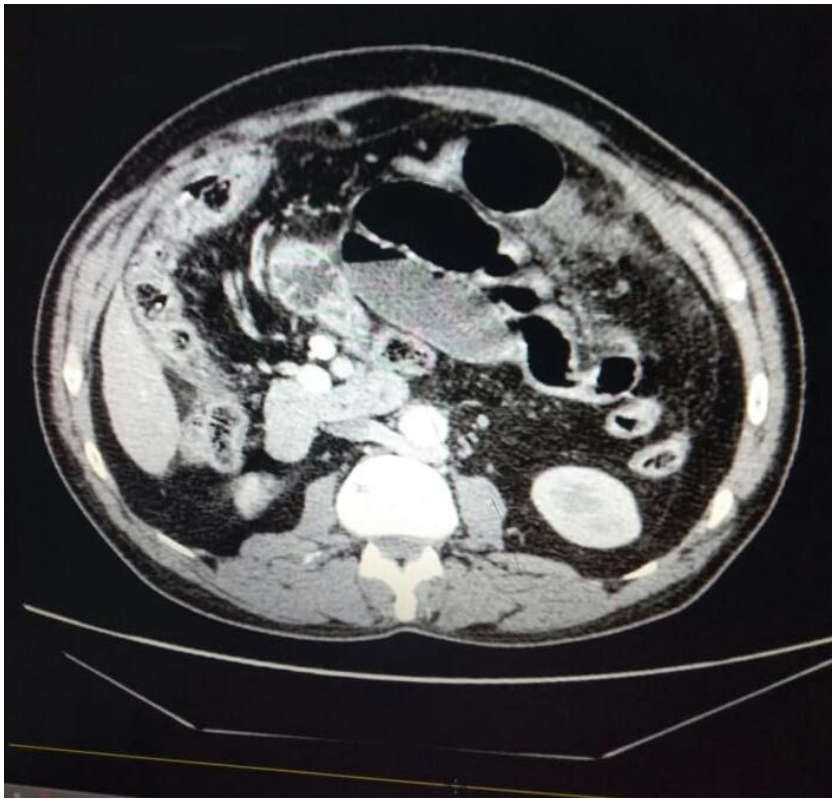

Fig-1: CT image showing a pneumoperitoneum

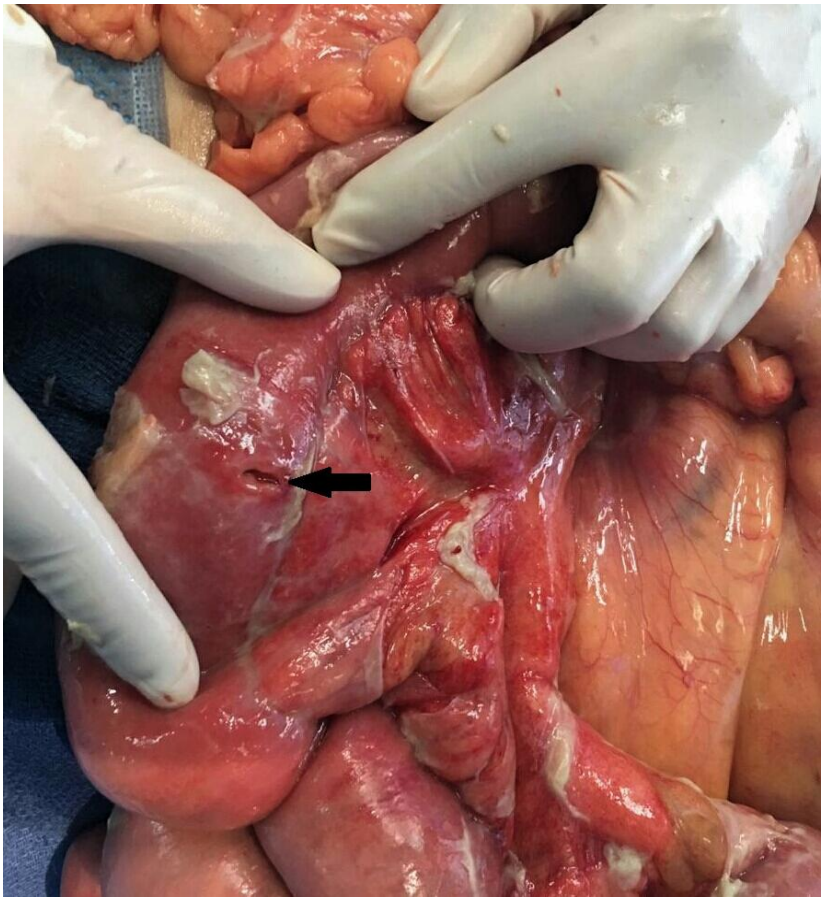

Fig-2: Peropeartory image showing a isolate small bowel perforation

Table-1: Causes of free perforation of the small bowel

Immune-mediated or inflammatory :
Crohn's disease (CD)
Celiac disease or gluten-sensitive enteropathy (GSE)
Collagenous sprue
Graft-*vs*-host disease (GVHD)
Infections :
Viral: Cytomegalovirus (CMV)
Bacteria: Salmonella paratyphi, mycobacterium tuberculosis
Parasites: Ascaris lumbricoides
Protozoa: Entameba histolytica
Drugs and biological agents:
NSAIDs: Indomethacin
Enteric-coated potassium chloride
Chemotherapy (?steroids)
Monoclonal antibodies: Bevicuzimab
Congenital:
Meckel's diverticulum
Jejunal or ileal duplications
Metabolic:
Homocystinuria
Vascular:
Wegener's granulomatosis
Giant cell arteritis
Allergic granulomatous arteritis (*i.e.*, Churg-Strauss syndrome)
Henoch-schonlein purpura
Buerger's disease
Atherosclerotic vascular occlusion
Radiation-induced vascular injury
Neoplasm :
Primary (adenocarcinoma, EATCL, angiosarcoma)
Secondary (melanoma, breast, mesothelioma, lung)

DISCUSSION

In adults, perforation of the small intestine may result from obstruction causing gangrene, strangulation of hernias and trauma.

A number of causes of intestinal perforation have been described but it's rare. These include immune-mediated, infectious or medication-related, congenital, metabolic, vascular or neoplastic causes (Table-1). However, factors considered to be rare vary by geographical region and the socioeconomic status of the case. For example, cases of perforation related to typhoid fever are extremely rare in Western populations, but this is the most frequent cause in Eastern populations. [3] Similarly, intestinal tuberculosis is extremely rare in developed countries but is still an important intestinal problem in some geographical regions [4].

If, in Western populations, inflammatory bowel diseases are not taken into consideration, malignancies are more often encountered aetiological factor for SBPs.

The clinical presentation in non-traumatic perforation of small intestine is no specific [5, 6]. The abdominal examination has revealed moderate localized or generalized tenderness but relatively soft abdomen. The diagnosis is mainly clinical, supported by radiological finding of free gas under diaphragm [7, 6, 8], ultrasound and CT scan were all normal. Laboratory investigations were not helpful in all cases [7-9], Wani *et al*., have found that only 29% of patients with non traumatic perforation of terminal ileum have leucocytosis. Furthermore, no single investigation had a high diagnostic accuracy [6].

Intestinal perforation is associated with high mortality if early and proper management is not initiated [6, 10, 3]. Preoperative resuscitation and intravenous antibiotic are important [10, 11]. Furthermore, the general condition of the patient, the number of perforations, the condition of the intestine, and surgeon's experience define the operative procedure, prognosis and outcome [8, 11, 12].

Nowadays, the therapeutic outcomes of cases with SBPs are better than past decades due to developments in visualisation methods, surgical techniques, and intensive care conditions. However, prognosis are still poor in some patients. The most important reason, confirmed by our results, is related to the timing of presentation at the hospital [13, 14], The high rates of morbidity and mortality are expected and are related to the degree of intraabdominal pollutants and the systemic influences of intraabdominal sepsis.

CONCLUSION

In conclusion, the clinical course of SBPs due to unusual causes are not different from that of perforations related to common, known causes. Most important issue is surgical intervention before the development of signs of intraabdominal sepsis. Factors affecting of clinical course are presentation time and patients' clinical status in admission, not aetiology.

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