

Case Study

Acute necrotizing colitis : a case report and literature review

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Abstract:

Necrotizing colitis is a potentially life-threatening medico-surgical emergency, often unrecognized due to its infrequency in young patients. We report the case of a 44-year-old man admitted for management of sigmoid colon necrosis secondary to inferior mesenteric artery thrombosis most likely post SARS-CoV-2 infection.

Keywords: Necrotizing colitis, emergency surgery, thrombosis of the inferior mesenteric artery.

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INTRODUCTION

Necrotizing colitis is an acute condition predominantly impacting premature neonates, characterized by considerable morbidity and mortality rates¹. Its occurrence in adults is notably lower, with decreased mortality rates². Prognosis relies mainly on urgent, multidisciplinary treatment.

Case presentation

The 44-year-old male patient had a history of SARS-Cov2 infection and was brought to the emergency room after experiencing occlusion for four days. Upon clinical examination, the patient was found to be in relatively good general condition, tachycardia (heart rate of 110 bpm, blood pressure of 100/60 mmHg, afebrile), with a distended abdomen and tenderness that was limited to the left iliac fossa and flank.

Biological screening showed hemoglobin level at 10g/dL, WBC 16400 elements/mm³, C-reactive protein 120 mg/L.

Abdominal CT scan with injection showed necrosis of sigmoid colon due to thrombosis of inferior mesenteric artery with peritoneal fluid effusion.



Figure 1. CT-Scan showing sigmoid necrosis

Emergency surgery was performed, surgical exploration revealed localized necrosis of the sigmoid colon, which was subsequently resected with the confection of a double stoma.



Figure 2. Image showing the necrotic sigmoid colon

Medical treatment was then instituted with curative-dose LMWH.

The follow-up was generally marked by a clinical and biological recovery. Patient was then referred to internal medicine department for etiological investigation.

DISCUSSION

Necrotizing colitis (NC) primarily affects low birth weight premature babies; the incidence ranges from 0.3 to 2.4 per 1000 live births, although it is significantly higher—roughly 10%—among babies weighing less than 1500 grams^{3, 4}. Even while adult incidence of NC is much lower and its fatality rate is lower, NC nevertheless has a high morbidity rate⁵.

Adult NC can result from a number of factors. Its aetiology and pathophysiology are associated with variables like circulatory disruptions, inflammatory mediators, and infectious pathogens. Numerous pathogenic bacterial pathogens, such as *E. Coli*, *Clostridium*,

Staphylococcus epidermidis, and Klebsiella, as well as viruses such rotaviruses² and coronaviruses, can cause NC.

The severity and progression of the disease are the primary determinants of the diverse clinical presentations of NC. The primary symptoms are discomfort in the abdomen, nausea and vomiting, tenderness or contracture in the abdomen, and obstruction of the intestine.

Patients almost never get a fever or leucocytosis. Abdominal wall contracture may be observed on abdominal examination in situations of acute intestinal ischemia leading to transmural infarction and necrosis. This condition is frequently associated with metabolic acidosis and shock⁶.

Although radiography and ultrasound can be utilised as diagnostic techniques, a CT scan is now the preferred method for diagnosing NC⁷. Intestinal wall thickening and colon fat infiltration, with or without peritoneal fluid, are shown in the photos. A vascular aetiology may be suggested by computed tomography; in the event of total obstruction, the intestinal wall will be thin and non-enhanced, with lumen dilatation and maybe mesenteric thrombosis⁸.

All things considered, a CT scan can be used to pinpoint the precise site and degree of the injury. It is also possible to assess any suspected arteriovenous IMA malformation with MR angiography⁷.

Pathologies classified as occlusive or nonocclusive can be used to group the several causes of colonic ischemia. Vasculitis and thrombophilia rank highest among the occlusive factors that induce ischemic colitis in young people⁹.

In individuals with severe COVID-19, SARS-CoV-2 has been associated with the development of coagulopathy and thromboembolic consequences. Pulmonary embolism, deep vein thrombosis, and seldom mesenteric ischemia were among the presentations. Our patient had already contracted SARS-CoV-2.

Multidisciplinary care is provided, including LMWH-based medical therapy and surgery. When there is clinical deterioration beyond 12 to 24 hours despite extensive medical treatment, or when there is intestinal necrosis or frank perforation, surgery is required. The surgical choices are either excision of the necrotic segment with anastomosis or resection and provision of a stoma².

CONCLUSION

Adults are extremely seldom affected by NC, which has a highly varied clinical presentation and a diagnosis based on CT scans.

The primary methods of management, which are surgery and LMWH administration, are urgent.

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Consent

The author (s) has gathered and maintained the patient (s)'s written consent in accordance with international or university standards.

Ethical approval

The author (s) has gathered and maintained formal ethical approval in accordance with international or university standards.

Competing interests

The authors have stated that there are no conflicting interests.

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