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Abdominal trauma leading to diagnosis of Crohn's disease

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1. Introduction

Crohn's disease can first manifest at different ages and with different symptoms. Crohn's disease has been reported in the literature to present with symptoms similar to ruptured appendicitis [1], military tuberculosis [2], and even condylomata acuminata [3]. Crohn's disease is primarily diagnosed in children in the context of nontraumatic bowel perforations [4]. Very rarely is it first diagnosed in the context of trauma. Trauma can sometimes mask underlying medical conditions warranting further workup and a different treatment approach.

2. Case

A 15-year-old boy presented five hours after an All Terrain Vehicle wreck, which occurred during an organized race. The patient reported that it occurred at low speed and he sustained a blow to his abdomen from the handlebars. He continued to race but developed abdominal pain shortly thereafter, which worsened until his presentation to our facility about six hours following the injury. Physical examination revealed a small superficial skin laceration in the right peri-umbilical region and localized pain and tenderness in the lower abdomen. A computed topography (CT) scan showed diffuse free fluid and small foci of pneumoperitoneum and marked bowel wall thickening of the terminal ileum. He underwent emergent exploratory laparotomy where findings of extensive four-quadrant contamination with intestinal contents were noted. The distal ileum was inflamed and friable with a jagged 1-cm hole present on the anti-mesenteric border 15 cm from the ileocecal valve (Fig. 1). Fat creeping was present, which raised suspicion for Crohn's disease. The most friable and inflamed portion of the terminal ileum included the site of perforation which was resected and the bowel was left in discontinuity (Fig. 2). The decision to leave the bowel in discontinuity was both due to the friability of the terminal ileum not holding a stable staple line and the gross four quadrant contamination at the time of the exploration. He returned to the operating room two days later for ileocecectomy with ileocolic anastomosis with pathology known at that time. Final pathology revealed Crohn's disease with associated bowel perforation with acute cryptitis, crypt abscess formation, focal granulomas, transmural inflammation, and fissures.

3. Discussion

It is well known that traumatic injury can occasionally lead to the diagnosis of pediatric solid tumors particularly Wilm's tumors. Historically, operative indications for Crohn's disease include stricture, fistula, obstruction, abscess formation, or failure of medical therapy. Rarely, low impact trauma can cause perforated viscus requiring exploratory laparotomy and bowel resection. There are several case reports describing patients with known Crohn's disease sustaining minor trauma to the abdomen leading to significant morbidity with requirement of exploratory laparotomy, and bowel resection [5,6]. Our case describes a patient presenting with an acute abdomen in the setting of low impact blunt abdominal trauma. The patient was not previously diagnosed with Crohn's prior to the intraoperative investigation. Once Crohn's disease was suspected it was confirmed via pathology. This case illustrates an important teaching point in that when the symptoms don't match what would be expected from minor trauma consider more insidious etiologies. Underlying medical etiologies can increase the risk of bleeding and infection following minor trauma potentially leading to a difficult diagnosis and a different algorithm for treatment [7,8].

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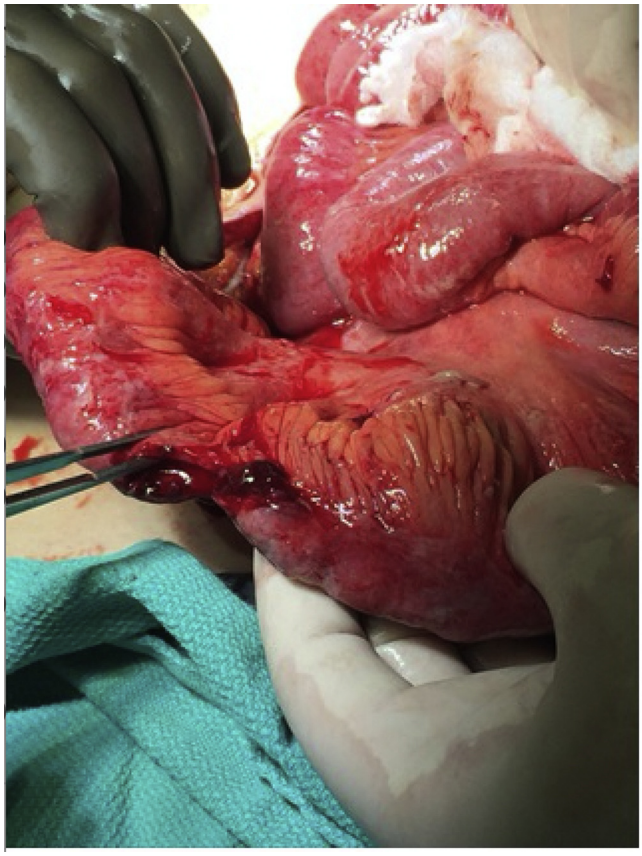

Fig. 1. Perforation of the distal ileum.

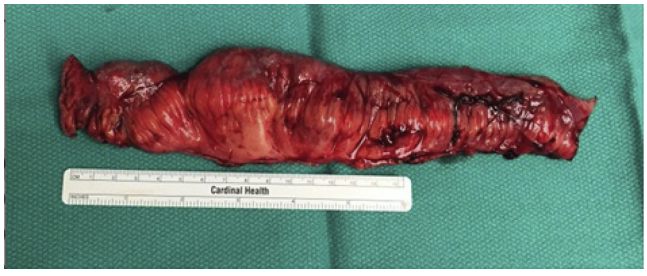

Fig. 2. Excised terminal ileum with creeping fat.

Conflicts of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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Ethical approval

All work done in accordance with the highest ethical standards.

Contributors

Brandon and Patrick wrote the manuscript. Paige and Nicholas helped with editing and reference selection.

Consent

The patient consented to publication of this manuscript.

Guarantor

Brandon Lucke-Wold agrees on behalf of all authors. All authors have seen and agree with the contents of this work. Patrick Bonasso will be responsible for payment.

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