

CASE REPORT

Typhoid Caecal Perforation in a Two-Year Old Child: A Case Report

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ABSTRACT

BACKGROUND: *Typhoid fever afflicts people of low socio-economic status in developing nations. Although ileal perforation is a common complication of typhoid fever in tropical Africa, caecal perforations related to typhoid fever are uncommon. They present atypically in children under of five years old. Such presentation could include cough and caecal perforation.*

CLINICAL DESCRIPTION: *We report a two-year old girl with intraoperative and histopathological evidence of a perforated typhoid caecitis who had right hemicolectomy.*

CONCLUSION: *Caecal perforations may occur in children as young as two years of age following enteric fever. High index of suspicion is needed for early detection.*

KEYWORDS: *Caecal perforation, children, complication, typhoid, two years*

INTRODUCTION

Typhoid intestinal perforation is caused by virulent strains of *Salmonella typhi* and less commonly, *paratyphi* (1). It affects people of low socio-economic status in low and middle income countries and with exceptionally poor outcome irrespective of the site or the number of intestinal perforation. The anti-mesenteric border of the ileum is the usual site of perforation, within 40 cm of the ileo-caecal junction (1), but it has been reported to occur up to 80 cm from the ileo-caecal junction, in the appendix, caecum or colon (2). When it occurs in the caecum, the clinical and radiological features are indiscernible from an ileal perforation (2,3). The diagnosis is usually made intra-operatively.

A review of reported typhoid caecal perforations and a report of the youngest child in English literature to have a perforated typhoid caecitis are presented here with consent from the patient's mother.

CASE REPORT

A two-year old girl was seen in our centre with four-week history of high grade fever that was intermittent and two-week history of abdominal pain and distension. There were associated cough, anorexia and vomiting with passage of loose mucoid, non-bloody stools but no difficulty in breathing or weight loss. Examination revealed an acutely ill-looking child who was irritable, anicteric, pale

and febrile but weighed 13.6 kg (100% of the expected weight). Abdomen was tender with guarding and rebound tenderness. The bowel sounds were absent, and there was no significant finding on rectal examination.

A plain radiograph of the abdomen revealed dilated loops of the small bowel with multiple air fluid levels, but there was no sub-diaphragmatic air. A diagnosis of perforated typhoid ileitis was made, she was resuscitated and prepared for exploratory laparotomy. Operative findings included a one centimetre solitary caecal perforation on the anti-mesenteric border (Figure 1), oedema and inflammation of the caecum extending to the base of the appendix, 80ml of faeculent peritoneal fluid, and enlarged mesenteric lymph nodes.

She had right hemicolectomy and ileo-transverse anastomosis, but developed wound-related complications post-operatively for which she was treated prior to discharge. Histopathologic examination of the resected bowel confirmed the diagnosis with associated transmural infiltration by acute and chronic inflammatory cells mainly lymphocytes, plasma cells, neutrophil polymorphs, macrophages and Mallory cells. There was congestion of the serosal and submucosal vessels. The mucosa showed areas of ulceration with micro-abscesses. There was no focus of atypia or malignant change. The appendix was inflamed. The histological diagnosis was a perforated typhoid caecitis with appendicitis and peritonitis.

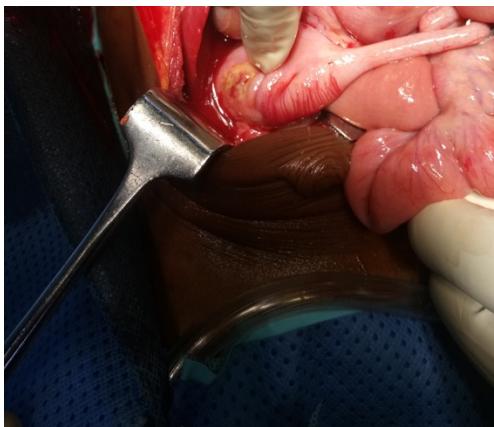


Figure 1: The solitary perforation on the antimesenteric border of the caecum

DISCUSSION

Perforated typhoid ileitis is still a dreaded complication of typhoid fever that is predominantly found in developing countries in Asia and sub-Saharan Africa (1,2). Reports show that 0.8-39% of cases of enteric fever are complicated by intestinal perforation, the most common site of which is the ileum (2,4). Caecal perforations have been documented as rare, occurring in 0.05% to 3% of typhoid intestinal perforations (2,5). This is because the pre-perforations in the caecum are smaller than the ileal ulcers, and rarely perforate.

The atypical age presentation of our patient is rare as intestinal perforations are hardly seen in children of below five years old (2). Although several studies have reported varying ages of the youngest patients with typhoid intestinal perforations ranging from 1 year to 8 years, none of them reported caecal or colonic perforations in the cohorts of patients they studied.

Mallory cells are pathognomonic of typhoid perforations (4) and were seen in the histology of the right hemicolectomy specimen of the patient presented. These cells are histiocytes which have phagocytosed lymphocytes, typhoid bacilli and red blood cells (3,5).

A right hemicolectomy is recommended for caecal typhoid perforations especially when it is associated with extensive inflammation, necrosis and peritoneal soilage (4,5). The index patient had faeculent peritoneal soilage. Simple closure reinforced by an omental patch may be an option when there is slight inflammation but no necrosis. This may be a difficult option to employ as the omentum in patients with typhoid caecal perforation may be shrunken and far away from the perforation, limiting its use as a patch.

Typhoid caecal perforation is a rare and atypical manifestation of typhoid intestinal perforation. It can occur in young children aged two years. Preoperatively, the clinical presentation is similar to the more common typhoid ileal perforation, and diagnosis of caecal perforation can only be made intraoperatively. A right hemicolectomy is the preferred surgical option in perforated typhoid caecitis.

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