

Toxic colonoscopy—how investigating active inflammatory bowel disease can lead to the serious complication of toxic megacolon

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Accepted 9 July 2015

DESCRIPTION

A 15-year-old girl presented to accident and emergency A&E unable to cope after a week-long history of abdominal pain with vomiting and blood-streaked diarrhoea.

The patient had been known to the gastroenterologist for suspected inflammatory bowel disease and was due for an outpatient endoscopy.

On examination, the patient was febrile and tachycardic. There were no mouth ulcers or skin changes, however, finger clubbing was present, there was guarding and the patient was tender in all quadrants. There were no palpable masses or evidence of organomegaly. Bowel sounds were present.

The patient had been using a hot water bottle, which had caused erythema ab igne.

The patient was expedited for oesophagogastroduodenoscopy and colonoscopy (figure 1) after having bowel preparation. Results displayed antral gastritis and severe colitis with cobblestoning and pseudopolypoid-like mucosal oedema.

The following day, there was a severe increase in pain and abdominal distension with bowel sounds

absent. Abdominal radiograph (figure 2) showed dilated bowel and CT scanning confirmed toxic megacolon (figures 3 and 4), although no perforation.

The patient was made nil by mouth; hydrocortisone, intravenous cefotaxime and metronidazole were started as per guidelines.¹

With pain improving the following day and radiology showing improvement in dilation, diet was reintroduced once bowel sounds returned.

There is evidence to suggest colonoscopy² and bowel preparation³ may have caused the exacerbation of ulcerative colitis leading to toxic megacolon.

It is important to ensure patients who have not currently undergone diagnostic colonoscopy for inflammatory bowel disease do not have the procedure during a flare up as is evident here.



Figure 1 Results displayed antral gastritis and severe colitis with cobblestoning and pseudopolypoid-like mucosal oedema.



Figure 2 Plain abdominal radiograph where the transverse colon shows evidence of thumb printing in keeping with bowel wall oedema along with marked dilation. It was vital to reduce the dilation as serious complications include perforation and sepsis.



To cite: Tariq S, Farooq A, Ali I, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2015-209769



Figure 3 Axial view of CT abdomen image showing abnormally dilated colon measuring up to 7.2 cm in diameter, which is consistent with the appearance of toxic megacolon.



Figure 4 Coronal view of the toxic colon.

Learning points

- ▶ Acute exacerbation of inflammatory bowel disease should be treated with caution and endoscopic procedures should be avoided, however, if they are necessary, laxative-based bowel preparation formulas should be used with caution pre-endoscopy as they are both hypothesised causes for the development of toxic megacolon. There is great importance in the early recognition of toxic megacolon as this can be fatal in the instance of bowel perforation or could lead to the loss of bowel causing significant detrimental lifestyle changes.
- ▶ In lieu of colonoscopy, clinical scoring systems exist to predict the progression of inflammatory bowel disease activity, which can be used to direct the initiation of treatment in the case of an acute flare up. In this case, the Paediatric Ulcerative Colitis Activity Index (PUCAI) can be used. The PUCAI is calculated using signs and symptoms, and the maximum score is 85. This patient had a score of 80/85—in keeping with the results of the colonoscopy.
- ▶ The link concerning bowel preparation with toxic megacolon is unidentified; however, electrolyte disturbances and acute inflammation are hypothesised to lead to reduced colonic muscle tone, and, therefore, dilation. The alternative explanation is the colonoscopy itself further irritates the colon leading to inflammation and toxic megacolon.

Contributors ST gained consent, gathered the clinical information for the case, was involved in the diagnostic process and assisted with the write up of the case. AF supervised and critically reviewed the article for intellectual content, was involved in radiological analysis and assisted with the write up of the case. IA and HW were involved with the conception and design of the manuscript and a review of the literature, and assisted with the write up of the case.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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