Duodenal perforation in a 14-year-old boy with abdominal tuberculosis despite being on antituberculous treatment

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Abstract We are presenting a case of a 14-year-old male patient with known history of abdominal tuberculosis on medication for 4 months with frank peritonitis and air under the diaphragm found to have primary perforation of the duodenum due to tuberculosis. Tuberculosis is common in the third world but affects iliocaecal junction commonly. Cases with tuberculous duodenal are rarely reported in the literature.

Keywords Tuberculosis · Duodenal perforation · Peritonitis

Introduction

A 14-year-old male patient presented with history of abdominal distention, absolute constipation and fever for 2 days. He was a known case of abdominal tuberculosis and on antituberculous treatment for 4 months. There were off and on episodes of colicky abdominal pain and an admission 2 weeks back for subacute intestinal obstruction that was treated conservatively.

At presentation, abdomen was distended and tender with pulse 110/min, systolic blood pressure 90 mmHg, temperature 101°F. Diagnosis of peritonitis due to intestinal perforation was made and patient resuscitated with fluids and electrolyte imbalance was taken care of. Abdominal ultrasound showed free fluid in the abdominal cavity. Plain radiograph abdomen erect was done which interestingly showed “large free air under the diaphragm”. The laboratory findings were in normal ranges except haemoglobin 9.0 g% and ESR 27 mm/hour.

Exploratory laparotomy was done with provisional diagnosis of stricture perforation due to intestinal tuberculosis. Operative findings included: 1) three litres of free fluid in the abdominal cavity; 2) massive mesenteric lymphadenopathy; 3) 3 cm × 2 cm perforation at the junction of first and second part of duodenum (Fig. 1); and 4) small sized omentum with shortened mesentery (Fig. 2). Biopsy of the wall was taken and tube duodenostomy done. Abdomen closed with retention sutures and drain placed near the perforation in the subhepatic pouch. Biopsy report showed caseating granuloma in the duodenal wall and later organism was proved to be *mycobacterium tuberculosis*. Final diagnosis of duodenal perforation due to intestinal tuberculosis was made. Patient was started with second-line of drugs for tuberculosis. He remained in ICU for 2 days and expired due to respiratory complications.

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Fig. 1 Tuberculous perforation in the 2nd part of the duodenum with mucosa pouting

Fig. 2 Enlarged matted mesenteric lymph nodes with mesenteric shortening

Discussion

Small bowel stricture perforation is the usual mode of presentation for abdominal tuberculosis. It affects the ileocaecal region more commonly. The most common symptoms of presentation are those of small intestinal obstruction [1]. Tuberculous obstruction rarely affects the duodenum while rupture is only reported a few times in the literature [2, 3].

Duodenal obstruction caused by tuberculosis is due to the mass effect of the lymph nodes in the pancreaticoduodenal area and the stricture of the second or third part of the duodenum is difficult to diagnose. Suspicion of duodenal perforation by primary tuberculosis of the duodenum should thus always be kept in mind especially in the developing countries. Abdominal tuberculosis is a menace in the third world countries and affects any part of the body. Gastrointestinal tract is the fourth most common site for the extrapulmonary infection, commonly caused by *Mycobacterium tuberculosis* and *Mycobacterium bovis* [1].

Duodenal perforation is associated with mortality of around 30% and can only be reduced by early diagnosis and treatment [4].

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