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Case Report

A case report demonstrating intestinal tuberculosis in an infra-umbilical incisional hernia

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ABSTRACT

Abdominal tuberculosis is common but it is rare to diagnose it through the contents of hernia. Clinical presentations of abdominal tuberculosis are diverse depending on the organ involved in the abdominal cavity. Thirty-five-year-old female was admitted in the surgical ward of Ajmal khan Tibbiya college hospital, Aligarh Muslim university Aligarh with the complaints of a swelling in the infra-umbilical region in a previous vertical LSCS incision. Hernia repair surgery revealed the features of intestinal tuberculosis which was confirmed by histopathology. Anti-tuberculosis treatment was started and she was in a stable condition upon discharge. This case report is the first documented case of intestinal tuberculosis in an infra-umbilical incisional hernia. The case report highlights the relevance of advance investigations in simple looking hernial cases. There is very limited data within literature related to the histopathological diagnosis of hernial sacs in an endemic area of tuberculosis, but it will be beneficial for surgeons working in endemic areas of tuberculosis.

Keywords: Abdominal tuberculosis, MRI, CT scan

INTRODUCTION

Abdominal tuberculosis is a common form of extra pulmonary tuberculosis and it is commonly seen in India.[1] it is characterized by chronicity and lack of clinical findings, it shows wide range of presentations such as sub-acute intestinal obstruction and chronic abdominal pain that can pose a diagnostic challenge. It can present with involvement of any abdominal sites but the most common forms of the disease include involvement of the peritoneum and intestine.[2,3] This case presented at public health care system AKTC, AMU Aligarh UP India. The presentation of intestinal tuberculosis in an infra-umbilical incisional hernia is very rare. There is no case report demonstrating intestinal tuberculosis in an infra-umbilical incisional hernia till now. This case report presents first documented case of intestinal tuberculosis in an infra-umbilical incisional hernia. The diagnosis of intestinal tuberculosis was confirmed by histopathology and patient was given anti-tubercular treatment.

CASE REPORT

Patient information

A woman who is 35 years old and a housewife was admitted in the surgical ward of Ajmal khan Tibbiya college hospital, Aligarh Muslim university Aligarh with the complaints of a swelling in the infra-umbilical region in a previous vertical LSCS incision. There was no history of any complication in relation to hernia. There was no abdominal distension, weight-loss, reflux or change in bowel habits. There were no constitutional symptoms suggestive of any systemic disease like tuberculosis.

Clinical findings

On examination, the patient looked healthy. Patient was apyrexic, pulse and blood pressure recorded and were within normal limits. Abdominal examination shows reducible infra-umbilical hernia in a vertical midline LSCS scar. There was no abdominal distension, ascites, or masses were noted. Relevant systemic history and examination were unremarkable.

Diagnostic assessment

Relevant blood investigations revealed a low haemoglobin (Hb) 10.1 gm/dL and normal total leucocyte count (TLC) 7.50×10^3/L was noted renal functions and electrolytes to be within normal limits. Pre-operative chest X-ray was unremarkable. All other haematological and biochemical investigations were within normal limits. On abdominal sonography, there was an incisional hernia of 16 mm diameter seen in lower abdomen with omentum as herniating content.

Per operative findings

The patient was finally diagnosed as infra-umbilical incisional hernia. Patient was consented for an elective Surgery and planned for repair of the incisional hernia defect. A vertical suprapubic incision was given and exploration was done first adhered omentum as herniating content comes out which was ligated and cut after that small bowel loops were come out of the wound which was inspected, there was multiple tubercles present over ileum and a fibrous constriction was also identified over the ileum, proximal to the constriction bowel loops were distended, (Figure 1) all of which suggestive of intestinal tuberculosis. Abdomen was inspected and no other abnormality like turbid peritoneal fluid or nodules in the omentum were found.

Figure 1: Intraoperative image showing tubercles and constriction over ileum.

Therapeutic intervention

Due to the intraoperative findings Ileal resection and anastomosis was performed (Figure 2) and resected bowel was sent for routine histopathological examination. Hernial defect was closed without mesh placement and closure done in layers. Postoperative recovery was good. Wound healed by primary intention and the stitches were removed on 7th postoperative day. Routine anti-tuberculous drugs were started after counselling the patient with regards to the illness and follow up prescribed. Diagnosis of abdominal tuberculosis was not expected pre-operatively due to the absence of clinical findings.

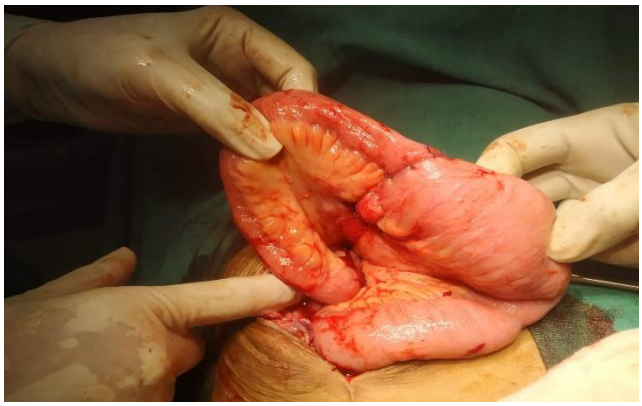

Figure 2: Ileal resection and anastomosis.

Histopathological report

Examination of the resected ileal revealed ulcerated epithelial lining with benign looking intestinal glands. There is presence of scattered well-formed epithelial cell granulomas with langhan's giant cells and chronic inflammatory infiltrate, congested and dilated blood vessels are seen. Impression; consistent with chronic granulomatous lesion favouring tuberculosis.

DISCUSSION

The incidence of TB is increasing worldwide, especially in developing countries.[3,4] Abdominal tuberculosis (ATB) is one of the very common forms of extra pulmonary tuberculosis. It is a common problem in developing countries compromising around 5 percent of all cases of TB worldwide.[5] ATB is still a common entity in Indian subcontinent. Abdominal tuberculosis can involve any of the following abdominal sites: peritoneum, gastrointestinal tract, omentum, hepatobiliary tree, pancreas, perianal area, and lymph nodes. The most common forms of the disease include involvement of the peritoneum, intestine, and liver.[1-3]

Clinical manifestations of abdominal tuberculosis have different ways and most often depends on the form of the disease. It may include evening rise temperature with sweating, loss of appetite, weight loss, vague abdominal pain and/or distension, ascites, altered bowel habits, intestinal obstruction, and intra-abdominal mass. Tuberculous peritonitis presents as straw-coloured, lymphocytic ascites. The most common complication is a

distal small bowel obstruction secondary to stricture formation in the small bowel, particularly the ileocaecal location.[3] Anti-tuberculous therapy often responding poorly in long and multiple strictures and patients often require surgical intervention.[5]

In surgical speciality clinics umbilical and inguinal hernias are seen very commonly. Detailed review of the reported cases of tuberculosis in umbilical and inguinal hernia demonstrates that they were diagnosed on intraoperative clinical findings and histopathological examination thereupon.[6,7] All reported case did not present any evidence of abdominal tuberculosis on history, clinical examination and investigations. There is very limited literature reporting abdominal hernias due to abdominal tuberculosis. There are 11 case reports demonstrating abdominal TB in inguinal hernias, and there is only one case report presenting abdominal TB in the sac of an umbilical hernia and there is no case report describing intestinal tuberculosis in a case of hernia inguinal, umbilical or incisional.[8] The diagnosis of tuberculosis in all above reported cases was not expected preoperatively due to the atypical presentation of the patient and diagnosis of ATB was made only because of the routine practice of sending all hernial sacs for histopathological examination.

The aforementioned reported cases highlight the significance of advance studies in simple looking inguinal, umbilical or incisional hernia cases. Diagnosis of abdominal TB preoperatively based on simple radiological investigations is challenging because abdominal TB does not present any specific radiologic appearance. The preferred radiographic imaging modality for abdominal tuberculosis is computed tomography (CT). Computed tomography may demonstrate diverse findings related to the particular organ involved such as adhesion of the bowel loops, mesenteric lymphadenopathy, thickening of the mesentery, omentum, and thickening of peritoneum, bowel loops and ascites.[9]

Preoperative MRI is very effective in demonstrating the abdominal wall defects, it allows an appropriate evaluation of the content of hernial sac, especially in those condition where the intestines were included in the hernial content. The detail knowledge of abdominal adhesion and its evaluation is very useful before planning the hernial surgery. MRI study of the abdominal wall is very important to get an accurate anatomical outline of the defect area to make effective management of complex abdominal wall hernia. It is a quick procedure and does not require the necessity of a contrast dye or any previous preparation for the patient. It also does not emit any ionizing radiation like Computed tomography (CT). Postoperative MRI is also increasingly being used for assessment of a hernial repair.[10]

Radiographic-guided interventions, endoscopy and laparoscopy are also useful diagnostic tools for attaining biopsy and making diagnosis of abdominal tuberculosis, especially in those cases where ascitic fluid is absent. Laparoscopic visualization of the peritoneal cavity and peritoneal biopsy are very useful for establishing a diagnosis of abdominal tuberculosis. Laparoscopic findings may include thickened peritoneum and omentum, bowel adhesions, and mesenteric lymphadenopathy. It has 93% sensitivity and 98% specificity in diagnosing of peritoneal tuberculosis.[1,11] Strictures, ulcers, fibrous bands, nodules, fistulas, and deformity at ileocaecal junction can be visualised with Endoscopy.[12]

CONCLUSION

Clinical diagnosis of abdominal TB is difficult and therefore it should be supplemented by relevant advance investigations in simple looking hernial cases, it will help in making an effective and accurate planning of the hernial surgery and management of associated problems. All patients living in endemic areas of tuberculosis and having risk factors of developing abdominal tuberculosis should be investigated preoperatively with thorough imaging and postoperatively specimen to be sent for histopathology to make a diagnosis. We also want to highlight the importance of through inspection of abdominal cavity during hernial repair surgery many times during hernial repair only the hernial sac is twisted and ligated from outside without thorough inspection of abdominal cavity.

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