



Enterocutaneous Umbilical Fistula: An Uncommon Presentation of Abdominal Tuberculosis

KEYWORDS

enterocutaneous, fistula, umbilicus, tuberculosis

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ABSTRACT

Background

Tuberculosis is one of the commonest infection of the abdomen encountered by General Surgeons in the developing world. The incidence is increasing with the rising incidence of HIV. The presentations are assuming great variation posing a diagnostic challenge to the attending surgeon.

Case Report

A case of spontaneous enterocutaneous umbilical fistula with a diagnosis established on histopathological examination is presented in view of its rarity.

Discussion

The variation in presentation of abdominal tuberculosis along with diagnostic modalities and therapeutic options are discussed.

Conclusion

An enterocutaneous fistula can be due to tuberculosis of abdomen. This aetiology needs to be kept in mind when confronted by an umbilical fistula pouring out intestinal contents.

Introduction:

Abdominal tuberculosis is one of the most morbid chronic infections of the abdomen. Tuberculosis can affect the intestines, lymph nodes and the peritoneum. However the presentation may vary posing a diagnostic challenge to the surgeon. The presentation may vary from chronic abdominal pain to features suggestive of obstruction or even perforative peritonitis. Presentation in the form of an umbilical fistula is extremely rare. A case of abdominal tuberculosis presenting as an umbilical fistula is presented along with a review of literature.

Case Report:

A 35 year old male, presented to our surgical unit with a history of discharging umbilicus. The patient gave history of umbilical discharge since 3 months. The discharge was serosanguinous measuring approximately 30-40 cc per day. Patient gave history of having undergone abdominal surgery at his native place 1 yr prior to presenting to our unit. The case papers of this surgery were not available hence no presumptive diagnosis could be made. On physical examination patient was cachectic with body weight of 30 kg only. Pulse was 92 beats per minute, BP was 110/60 mm of Hg. He had severe pallor.

Examination of abdomen revealed an opening in the umbilicus discharging serosanguinous fluid which was bile stained. There was extensive excoriation of surrounding skin. (Figure 1) There was no hepatosplenomegaly. The left groin exhibited a necrotizing mass of lymph nodes. (Figure 1) Blood investigations revealed haemoglobin of 7.5 gm %, Total Count was within normal limits. Liver function test revealed a low albumin of 2.6 gm/dl. BUN and serum cre-

atinine were normal. He was admitted to hospital and hyperalimentation commenced. Four units of packed cells, 6 units of FFP and daily parenteral nutrition were administered in addition to enteral diet over a period of 8 weeks. With this treatment the haemoglobin improved to 10 mg %, albumin increased to 3 gm/dl and his weight improved to 35 kg. However the fistula output increased significantly over these 8 weeks to a level of 800 to 1000 cc per day. Double contrast CT of the abdomen study revealed a mass of intestinal loops adherent to anterior abdominal wall in the region of umbilicus. In view of poor response to conservative treatment patient underwent exploratory laparotomy. At laparotomy there was a huge mass of small intestinal loops adherent to fistulous opening establishing the anatomical diagnosis of small intestinal enterocutaneous fistula. The mass of intestines was excised along with the adjacent mesentery which also contained a big mass of lymph nodes. As the intestines were collapsed a primary ileocolic anastomosis was done to restore continuity of bowel. Post-operative course of this patient was extremely stormy. On day 3 patient developed ARDS and was kept on ventilatory support. Subsequently he developed septicaemia and expired on the 8th post op day.

Discussion:

Abdominal tuberculosis is an extremely morbid condition of the abdomen associated with high mortality especially in malnourished patients. The traditional presentation has changed significantly over a period of time. As a result diagnosis of this condition becomes difficult necessitating histopathological evidence to commence treatment.

Development of an umbilical fistula associated with the

intestines may be a common accompaniment of Meckel's diverticulum. [1] Diseases of urachus may also give rise to umbilical fistula but in those cases the symptoms are related to the urinary bladder. [2] In the case presented patient had no symptoms related to urinary bladder. The contents from the fistula were bilious in nature confirming an intestinal aetiology. [1] Awareness of the fact that the umbilicus exhibits typical changes in cases of abdominal tuberculosis is of great clinical relevance. The umbilicus may exhibit changes such as retraction with transverse orientation with loss of umbilical hollow typically described as a smiling umbilicus. [3] Puckering of umbilicus with umbilical erythema is also one form of presentation. Development of a faecal fistula has also been described [3]. Histopathological examination of specimen revealed multiple strictures of small intestine whereas the lymph nodes revealed caseous necrosis, lymphocyte infiltration and atypical lymphocytes (Figure II & III). Histopathological confirmation of diagnosis prompts commencement of chemotherapy for tuberculosis. In the case presented patient was severely malnourished. Despite nutritional support there was no improvement in the fistula output. Hence this prompted surgical intervention. The metabolic response to surgical stress in such patients is suboptimal, thereby predisposing to serious complications. Patients treated conservatively do better as compared to those who undergo surgical intervention [4]. However conservative treatment cannot be adopted in a persisting high output fistula due to severe nutritional, fluid and electrolyte depletion along with painful skin complications. If the diagnosis is established then a trial of conservative treatment for at least 8 weeks with nutritional support may be of great help in reducing fistula output. However if this fails surgery remains the only option. Resection of the adherent bowel loops with primary anastomosis is the best option. However in cases where contamination is present or the bowel loops are loaded with contents it is a safe practice to do a proximal diversion in the form of a loop ileostomy in order to ensure safe healing of the anastomosis. [5]

Conclusion:

Awareness of the various changes of the umbilicus in cases of abdominal tuberculosis is pivotal for early diagnosis.

Trial of chemotherapy and supportive nutritional therapy for 8 weeks may help in improving outcome.

Outcome may be assessed by monitoring the fistula output and improving nutritional status.

Poor response by the way of increase in fistula output prompts surgical intervention which may be associated with high morbidity and mortality.

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Figure I
Enterocutaneous umbilical fistula with surrounding excoriation of the skin marked by blue arrows. Necrotic groin lymph nodes marked by black arrows.

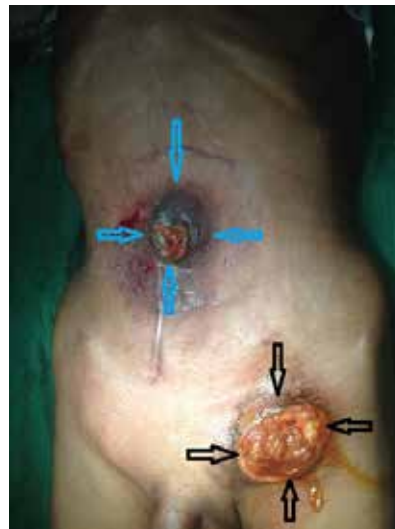


Figure II
Photomicrograph showing areas of caseation marked by blue arrows and lymphocyte infiltration marked by black arrows. (H&E staining, Magnification 100X)

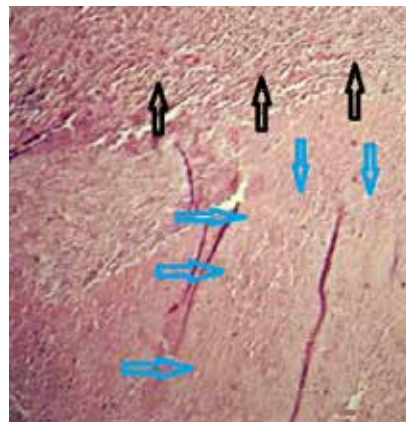
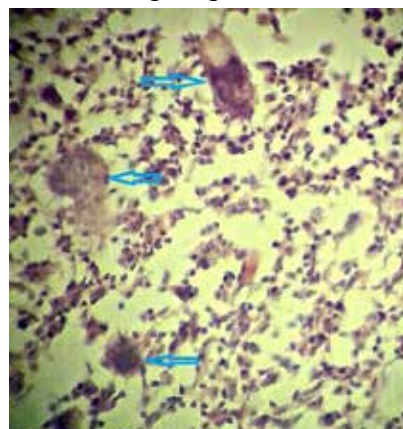


Figure III
Photomicrograph showing atypical lymphocytes marked by the blue arrows. (H & E staining, Magnification 400X)



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