

PRIMARY TUBERCULOSIS OF APPENDIX- A RARE CASE REPORT

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CASE PRESENTATION

A 24-year female patient presented to our hospital with complaints of pain in right lower abdomen (off/on), associated with vomiting for 3 days and moderate-to-high fever for 2 days. On initial workup, patient's leukocyte count was 15,000/mm³. Other routine biochemical and haematological tests were normal. On abdomen examination, there was rebound tenderness on right side of iliac fossa with rebound localised to Mc Burney's point. No past history of similar complaint. USG whole abdomen was suggestive of acute appendicitis. X-ray chest was normal. Working diagnosis of acute appendicitis was made and patient was taken for emergency appendectomy. On exploration through the gridiron incision the appendix wall was found to be thickened, enlarged, inflamed with adhesions in the peri-appendicular tissues and a tubercle was found only over appendix. Base was healthy, no free fluid.¹ No palpable pathology was detected in the ileocaecal region and mesentery. Appendix along with lymph node was sent for histopathological examination.

Gross examination revealed appendix to be about 8 cm in length. On microscopic examination underlying stroma shows ill-formed granulomas comprising of epithelioid cells with peripheral rim of lymphocytes and plasma cells. Also seen are giant cells of Langhan's type with multiple nuclei arranged in a horse shoe arrangement and eosinophilic cytoplasm. Peri-appendicular region did not show any tubercular lesion. Post-operative period was uneventful and AFB for sputum was negative and X-ray spine and both hip joints were normal that ruled out primary focus.

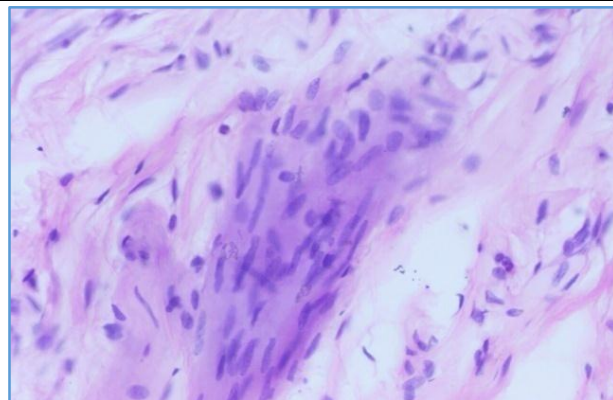


Figure 1. High Power showing Granuloma comprising of Epithelioid Cells having Elongated, Slipper-Shaped Nuclei

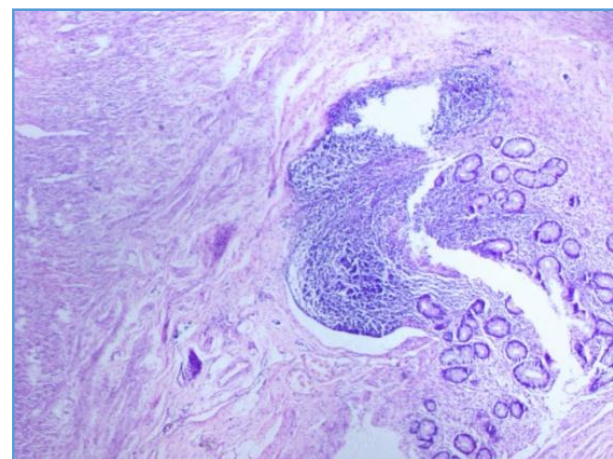


Figure 2. Low Power View showing Submucosal Gland and Granuloma along with Inflammatory Infiltrate

DIFFERENTIAL DIAGNOSIS

Appendicular abscess, acute appendicitis, perforated appendicitis, right ovarian cyst rupture and adnexal torsion.

CLINICAL DIAGNOSIS

Based on clinical examination and radiological finding, a diagnosis of acute appendicitis was made.

PATHOLOGICAL DISCUSSION

Primary involvement of appendix is very rare and accounts for only 0.6% to 2.9% of gastrointestinal tuberculosis in the absence tubercular focus elsewhere with occasional case reports in literatures.² Appendicular TB is of two types, i.e. primary or secondary type.³ The first type is due to a primary infection of Mycobacterium bovis in intestinal mucosa and primary pulmonary TB by M. tuberculosis is the secondary form and it is a complication as well as consequence.⁴ The rare condition of primary TB appendix may be due to the fact

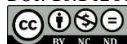
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that there is minimal contact of appendicular mucosa with intestinal contents. Though gastrointestinal TB is mostly secondary to pulmonary cause, the route of infection is by swallowing, i.e. intraluminal.^{2,5} The open cases of pulmonary tuberculosis in India are likely to be contaminated food and their objects, the use of which may lead to primary gastrointestinal TB in people who have unhealthy habits,^{5,6} and also these acute forms are consequences of severe pyogenic infection that aggravated the tubercular appendix. Based on histology, tubercular appendix is of three types i.e. ulcerative, hyperplastic and ulcerohyperplastic. Other aetiologies of granulomatous appendicitis are parasitic appendicitis, sarcoidosis, Crohn's disease and foreign body-induced inflammation.⁷ The presence of long duration chronic abdominal pain in young adults, pulmonary tuberculosis, poor nutritional status and weight loss and the presence of chronic diarrhoea have been said to be indicative of Tuberculosis of the appendix,^[8,9] but these symptoms are of doubtful values.

The diagnosis of a secondary infection by a pulmonary tuberculosis is characterised by radiological aspect usually. The case needs to be further investigated for ruling out primary intestinal Tuberculosis. Increased level of ascitic fluid adenosine deaminase in intestinal tuberculosis points to the diagnosis of TB.^{10,11} Endoscopic biopsy is the most accurate diagnostic alternative to surgery. Histopathology examination reveals caseating granuloma containing slipper-shaped epithelioid cells. Also seen are characteristic Langhan's giant cells. The prevalence of tuberculosis in the appendectomy specimens removed surgically for appendicitis is up to 2.9% in the reported studies.

DISCUSSION OF MANAGEMENT

The present case was not suspected as TB of appendix, unless laparotomy was performed, and suspected tubercles were noticed. Diagnosis was made only after histopathological examination. Hence, it suggests that all surgically removed

appendices should be subjected to histopathological examination. Surgical appendectomy followed by anti-tubercular therapy (ATT) is the treatment of choice.

FINAL DIAGNOSIS

Primary tubercular appendicitis.

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