

## Primary Tubercular Appendicitis with Perforation

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### ABSTRACT

Tubercular appendicitis is surprisingly rare, even in countries where this infection is endemic. We report a case of isolated tubercular appendicitis with atypical presentation. A 39 year male patient presented with abdominal pain and mild fever. On the basis of Ultrasonography and CECT findings, the patient was diagnosed as a case of appendicitis with perforation. Percutaneous (PC) drainage of the fluid revealed acid fast bacilli however no detectable tubercular focus was found elsewhere in the body. The patient was managed conservatively. Preoperative diagnosis of primary tubercular appendicitis is rarely made. It needs high index of suspicion. It should always be confirmed by histopathology.

**Keywords:** tubercular, appendicitis, ZN staining.

### INTRODUCTION

Tuberculosis is one of the world's most wide spread and fatal illnesses. In recent years, it has emerged as an important disease in both developing and developed countries, especially with the rising incidence of HIV infection.<sup>1</sup> Tuberculosis may affect primarily all organs and tissues of the body, although some of these show high immunity against the infection. The most common forms of non-pulmonary tuberculosis are tuberculosis of bones and joints (30%), urinary tract system (24%), lymph nodes (13%), reproductive organs (8%), CNS tuberculosis (4%), and alimentary system (3%).<sup>2</sup> Abdomen is one of the common sites of extrapulmonary tuberculosis. However, appendicular involvement is found to be distinctly uncommon even in the set up of ileocaecal tuberculosis. Further, isolated appendicular involvement (primary tubercular appendicitis) is extremely rare, occurring in only 1.5% to 3% of cases in the absence of pulmonary or other abdominal involvement and its presentation is atypical.<sup>3-6</sup> Here, we report a case of primary appendicular tuberculosis, with

no detectable focus elsewhere in the body, with atypical presentation.

### CASE REPORT

A 39-year-old man with rural background was admitted to the Department of Medicine, Dayanand Medical College & Hospital, Ludhiana in March 2013. The patient presented with non radiating pain abdomen for the last 10 days and moderate grade fever, with evening rise of temperature accompanied with rigors & chills and night sweats (last 5 days). Patient was non smoker and non alcoholic. There was no history of constipation or loose stools. No history of weight loss or loss of appetite.

On examination patient was conscious & cooperative, oriented to the time place and person. A soft non tender mass was palpable in the right iliac fossa. Patient was suspected of having pyrexia of unknown origin (PUO). Laboratory investigations revealed total leukocyte count  $14.5 \times 10^3$  with neutrophil predominance, serum creatinine levels was 1.28 mg/dl and his Na<sup>+</sup>/K<sup>+</sup>/Cl<sup>-</sup> levels were 139/5.01/99 respectively. The patient was further advised to get Widal test and ultrasound (USG) abdomen and pelvic region to rule out right iliac fossa lesion. Widal test was negative and USG of upper abdomen and pelvic region showed thickened caecum, surrounding fats show increased echogenicity. Minimal fluid was noted in the right iliac fossa. On the basis of USG findings, contrast enhanced computed tomography (CECT) abdomen was suggested to rule out

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appendicular pathology.

Multiple detector computed tomography (MDCT) scan whole abdomen was done by giving I/V contrast to look for appendicular lump. CT scan revealed normal terminal ileum and ileocaecal junction. Caecum appeared thick walled and contracted. A large well defined air containing collection was seen in right lumbar region along the medial aspect of caecum and ascending colon. It measured 11.3 x 7.4 x 6.3 cm. There was marked stranding and nodularity of surrounding fat. The collection shows heterogenous peripheral enhancement. Appendix was adherent to the collection posterior-inferiorly. There was evidence of the disruption of the appendicular wall. A small hyperdense area suggestive of appendicolith was seen within it. No local regional lymphadenopathy was seen. No evidence of free air suggestive of pneumoperitoneum was seen in the peritoneal cavity. Final impression of appendicular perforation with abscess formation was made and appendicectomy was planned 6 wks later.

Percutaneous drainage of the appendicular abscess was planned. The fluid was sent for ZN staining and aerobic culture/ sensitivity. Aerobic culture of the drained fluid revealed no growth of pyogenic organisms. ZN staining of the drained fluid showed the presence of acid fast bacilli. A diagnosis of tubercular appendicitis was made. Surgical consult was taken and it was decided to treat the patient conservatively. Patient was started on antitubercular (ATT) drugs. Gradually the fluid was drained off and PCD drain was removed, patient became afebrile and was discharged in a stable condition.

## DISCUSSION

Tubercular appendicitis is an extraordinary clinical condition, which is more prevalent in regions with endemic TB.<sup>6</sup> When a site of infection is detected elsewhere in the body, the case is named as “secondary” tubercular appendicitis; otherwise the condition is called “primary” tubercular appendicitis. The various ways by which the appendix can be involved include hematogenous, infected intestinal contents and extension of disease from neighboring ileocaecal or genital tuberculosis.<sup>1,7</sup> The rarity of primary tuberculosis of appendix may be due to the presence of minimal contact of appendicular mucosa with intestinal contents. Even in the present case, it was not easy to determine whether this was a complicated case of primary tubercular appendicitis or the appendicitis occurred secondary to tuberculosis elsewhere in the body,

however no other focus of tuberculosis was ascertained. Our patient had tubercular perforated appendix proven by ZN staining of the drained fluid. Tubercular appendicitis as the only manifest tubercular lesion may present in three clinical forms. The first type presents as an acute form that is indistinguishable from pyogenic appendicitis. The second clinical type is a chronic form presenting with vague pain, occasional history of vomiting, diarrhoea, and a mass in right iliac fossa. These cases are indistinguishable from cases of ileocaecal tuberculosis. The third type is latent and found accidentally on histopathological examination of the appendix. In our case patient presented with mild fever and pain in the right iliac fossa for the last 10 days, hence it appears to be the second clinical type, though vomiting and diarrhea were not seen in the said patient. The exact mechanism of involvement of the appendix remains unclear. The diagnosis of appendicular tuberculosis is usually made based on histopathological examination of the appendectomy specimen, often received well after the patient has been discharged. In addition there is difficulty in demonstrating the acid fast bacilli.<sup>3</sup> However in the present case diagnosis of TB could be established by detection of acid-fast bacilli in the drain fluid well before the appendicectomy was planned. Patient was managed conservatively with ATT.

As tuberculosis is endemic in our country, it is strongly recommended that all cases of abdominal pain of undetermined origin with other non specific symptoms should be evaluated for intestinal tuberculosis.

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