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Case Report

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Appendicular Tuberculosis- A Rare Entity

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1. Abstract

1.1. Background: Tubercular appendicitis is a rarely encountered entity, even in developing country like India where tuberculosis (TB) is highly prevalent.

1.2. Case Report: A 26-year-old female patient presented initially with short duration epigastric pain associated with intermittent vomiting and mimicked non ulcer dyspepsia (NUD). The pain later became more intense, generalized and finally localized to right iliac fossa. The initial ultrasonogram done by junior radiologist was normal but a repeat done after a gap of three days revealed lump in right iliac fossa , surrounded with dilated gut loops but this lump was not appreciated on clinically. The laparoscopic appendicectomy was done which on histopathological examination showed tubercular appendicitis.

1.3. Conclusion: The rare diagnoses are infrequently encountered but do happen, hence index of suspicion should be high, as in the present case of tubercular appendicitis which initially mimicked non ulcer dyspepsia.

2. Introduction

Tuberculosis has played havoc, especially in developing countries like India and has caused significantly high morbidity and mortality [1]. The Gastrointestinal TB accounts for 3% of extra pulmonary tuberculosis; the most common site involved is ileocecal region. The Appendix lies in close proximity to the ileocecal region; despite this, incidence of TB of appendix is rare [2]. There are no clear cut pathognomic signs and symptoms for preoperative diagnosis of tubercular appendicitis and diagnosis is usually made after histopathological examination of the appendix specimen. The incidence of appendicular TB in all appendectomies has been reported varying from 0.1% to 3 [3]. However, some pat studies reported involvement of appendix in intestinal Tuberculosis ranging between 46% and 70% [4]. The theory behind this is either it can be hematogenous spread from the affected intestines, closely lying appendix gets affected or due to peritoneal spread or from the affected genitourinary system [5]. The most common affected site of gastro-intestinal tuberculosis is ileocecal region. The Appendicular TB can be either primary or secondary, the latter form being common in which there is an infection spread from already existing infection within the abdomen [2].

3. Case Report

A 26-year old female, not a known case of any chronic illness presented with complaint of epigastric pain and intermittent vomiting of seven days duration. The first ultrasonogram done at this point of time by junior resident in emergency was reported to be as normal. She was symptomatically treated with proton pump inhibitors, prokinetics and antispasmodic but for no relief. Her pain abdomen increased, became generalized and later on localized to right iliac fossa, over next two days. On physical examination, the patient was conscious, co-operative, in discomfort but afebrile. The systemic examination including chest, cardiovascular, central nervous system, ophthalmological and Gynecological was normal. The per abdominal examination revealed soft abdomen with mild fullness in lower abdomen but no lump was appreciated. The complete haemogram revealed hemoglobin of 13.3 g/dL, white blood cell count 10,500/L with mild eosinophilia but erythrocyte sedimentation rate (ESR) was normal. The renal & liver function test, blood sugar, serum amylase & electrolytes, urine & blood culture, thyroid & complete lipid profile, viral screen including hepatitis B, C, HIV, Electrocardiogram were

all essentially normal but chest x-ray revealed bilateral patchy diffuse infiltration. A repeat ultrasonogram abdomen was done by a senior radiologist who reported dilated gut loops with ill defined lump in right iliac fossa with thickened gut loops and adherent omentum. The surgeon opinion was taken and probable diagnosis of appendicitis was kept and patient was subjected to laparoscopy. The per-operative findings were a long, congested appendix in sub-cecal position with marked adhesion around base of appendix. The caecum and ileocecal region were indurated and congested, along with presence of purulent fluid in pelvis. The appendix was removed and gross histopathological examination revealed appendix measuring 5 cm x 1 cm with markedly congested external surface and small nodules. The microscopic examination revealed features consistent with tubercular appendicitis i.e. multiple caseating epitheloid cell granulomas. The post-operative period was uneventful and patient was treated with antitubercular treatment (ATT) for six months i.e. four drug regimen for two months and followed by two drug regimen for four months along with prophylactic pyridoxine for whole course of six months. The patient tolerated ATT without any side effects and her chest x-ray also became normal and at present she is living a healthy life.

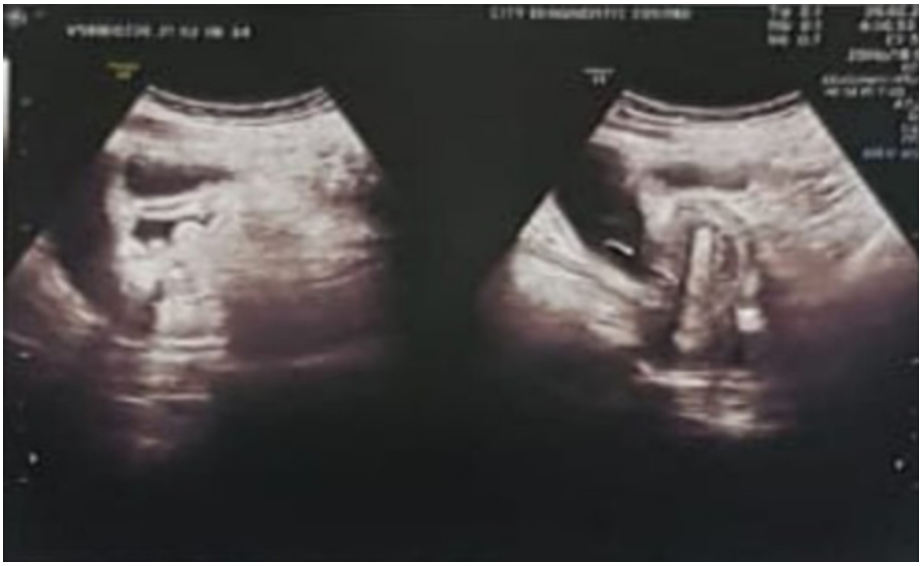

Figure 1: Ultrasonogram Showing Dilated Gut Loops in Right Iliac Fossa

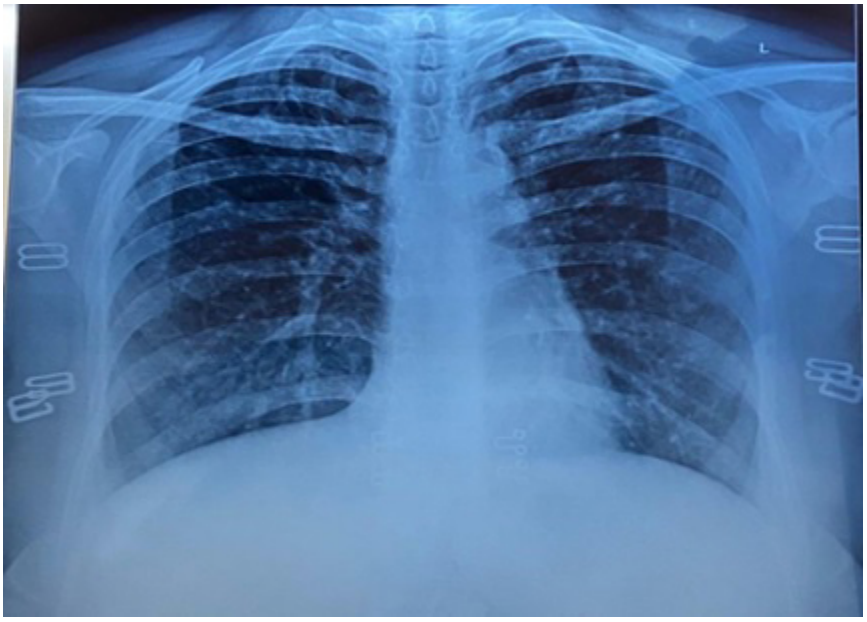

Figure 2: Chest X-Ray Showing Infiltration in Lungs Bilaterally

Figure 3: Gross Appearance of Removed Large Tubercular Appendix

4. Discussion

Tubercular appendicitis is a disease of young and more commonly seen in females. As per our knowledge, in literature, till date approximately 175 cases have been reported. The histopathological examination is must for diagnosis. The first mention of it was done in 1873 by Corbin [6]. Tuberculosis of appendix may be either primary or secondary. Primary tuberculosis of appendix is extremely rare and is due to infection of the mucosa directly by swallowed Mycobacterium tuberculosis; secondary involves spread of infection from existing infective foci. The appendix is less affected due to minimal contact of its mucosa with intestinal contents. However, infection may spread via local extension from the ileocecal region, genital tuberculosis, and hematogenous spread from distant foci [5]. Tubercular appendicitis may present in three clinical forms: acute, chronic, or latent (incidental). The acute form may be indistinguishable from acute suppurative appendicitis. The chronic form is more common, and presents with the recurrent attack of appendiceal colic, diarrhea, and vomiting. The latent type is often discovered after an incidental appendectomy. There are no distinctive clinical or radiological features to suggest tubercular appendix preoperatively therefore making its diagnosis after the histology reports or as a diagnosis of exclusion. In the past, many authors have suggested co-relation of tubercular salpingitis with appendicular tuberculosis [7]. Appendicular tuberculosis is believed to be more commonly presenting as a chronic form with acute flare up of appendicitis secondary to tuberculosis. The most common clinical presentation is mild to moderate abdominal pain. Chronic form can present with some features suggestive, but usually present with some other existing systemic illnesses [8]. Maharajan et al reported that signs and symptoms of patients with tubercular appendicitis were consistent with acute appendicitis, hence making the diagnosis unconfirmed until the histology reports [9]. Surgery is the mainstay of the appendicular TB because antitubercular drugs alone cannot control recurrent attacks of inflammation. The initial management is surgical. Some authors believe primary Tuberculous appendicitis can be cured completely by surgery alone [7] but others think that anti-tubercular treatment is an integral part of management and it must be started if the biopsy reveals tuberculosis [10-12].

In our case there were some peculiarities like patient had no history of fever, cough or expectoration but chest x-ray revealed changes suggestive of pulmonary tuberculosis. The clinical presentation mimicked like non ulcer dyspepsia and later on due to increased pain abdomen and that too localizing into right iliac fossa hinted at appendicular involvement. The first ultrasonogram was non contributory, may be due to missing by junior radiologist or might be that it was done too early for ultrasonogram changes of appendicitis to develop. The ESR was unexpectedly normal. The patient did not give consent for colonoscopy post-operatively, in view of any change in treatment, even if ileocecal area was found to be tubercular. On per-operative findings, ileocecal area was not found to infected with tuberculosis.

5. Conclusion

The rare diagnoses are rarely encountered but do happen, hence index of suspicion should be high, as in the present case of tubercular appendicitis which initially mimicked non ulcer dyspepsia and was missed on initial ultrasonogram abdomen. Later on due to localizing of pain in right iliac fossa along with positive findings in repeat ultrasonogram paved the way for laparoscopic appendicectomy and confirmation of tubercular appendicitis.

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