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Tuberculosis of the appendix: A rare presentation of extrapulmonary tuberculosis

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Abstract

Tuberculosis (TB) is one of the oldest diseases that remains a major global health problem. It causes ill-health in millions of people each year and in 2015 was one of the top 10 causes of death worldwide, ranking above HIV/AIDS as one of the leading causes of death from an infectious disease. This is despite the fact that with a timely diagnosis and correct treatment, most people who develop TB disease can be cured. Tuberculosis are typically affects the lungs, but can also affect other sites. Acute TB appendicitis represents a rare form of TB, and the diagnosis is usually made after histopathological examination of the appendectomy specimen. Anti-tubercular therapy must be started in the post-operative period. In Iraqi national TB control program, no case was reported previously.

Keywords

tuberculosis; appendix; histopathology

Introduction

Tuberculosis (TB) of the appendix represent a rare form of abdominal TB which itself represent 5% of all cases of TB [1]. Abdominal pain represent the most common clinical manifestation that accompany intestinal TB, which is related to inflammation of mesenteric, intestinal lumen stricture and involvement of the peritoneum, about half of the patients present with constipation, 11 – 37% of the patients present with diarrhea, followed by 5 – 15% with lower intestinal bleeding, in addition constitutional symptoms (malaise, night sweats, fever, and weight loss) are common presentation in intestinal TB [2-5].

Intestinal TB usually multifocal affecting multiple areas, with ileocecal representing the most common site affecting 75% of the cases [6]. Mycobacterium tuberculosis have the ability to penetrate the mucosa and colonizein the submucosal lymphoid tissue, where it initiates an inflammatory reaction with subsequent lymphangitis, endarteritis, granuloma formation, caseation necrosis, mucosal ulceration, and scarring. Other locations of involvement, in order of descending frequency, are the ascending colon, jejunum, appendix, duodenum, stomach, esophagus, sigmoid, colon and rectum [6].

As there are no pathognomonic clinical features of appendicular tuberculosis, a pre-operative diagnosis is difficult, and the management of these patients as treatment in patients presenting with

signs and symptoms of appendicitis remains appendectomy, and treatment will be commence if the biopsy reveals tuberculosis [7].

Case Presentation

A 65 year-old male from a rural area, from Baghdad, came to the hospital with complaints of severe pain in his abdomen. His condition started as a low grade fever for 3 weeks mainly at night associated with night sweating for 1 week before his presentation to the hospital also he complained from nausea for a day. Patient reported no significant past medical history of any chronic disease. On examination he had tenderness localized in right iliac fossa.

On investigation hemoglobin and total White Blood Cells (WBC) count were within normal. Ultra Sound examination of abdomen showed mild thickened edematous bowel loops, no free fluid, no dilatation and no other significant finding. Chest X ray showed no abnormality.

The patient was diagnosed as appendicitis and managed by appendicectomy, post operatively patient did well. The appendix mass of 6.0 x 2.0 mm; histopathological examination showed elongated serpentine granulomas with central necrosis and peripheral palisading of histocytes, picture consist with chronic granulomatous inflammatory process suggestive of TB, with no malignancy.

Patient was referred to the National Specialized Centre for Chest and Respiratory Disease, where registration was done for him as extrapulmonary TB case (TB of appendix). Patient started treatment 2 months as intensive phase with 4 tablets of combined fixed dose 4drugs formula anti-TB medication (isoniazid [INH], Rifampicin, Pyrazinamide, and Ethambutol), then followed by 4 months continuation phase with 4 tablets of combined fixed dose 2 drugs formula anti-TB medication (INH and Rifampicin). The patient was doing well with his medication and he was healthy after follow up.

Discussion

Tubercular appendicitis is a rare manifestation. Although ileocecum is involved in over 40% of cases of abdominal TB, the appendix is involved in only about 1% [8]. It was recognized by Corbin [9] in 1873 and by Deaver [10] in 1896.

Tuberculosis may involve any organ and tissue in the body. Appendicular TB can occur as a primary or secondary form: The first form is due to a primary infection of the intestinal mucosa by Mycobacterium bovis; the second form is usually a consequence and complication of primary pulmonary TB by Mycobacterium tuberculosis [11].

The disease can present either as a chronic disease with recurrent episodes of fever, weight loss, right iliac fossa pain or as acute appendicitis, or as a latent type that is detected incidentally on histopathological examination [12,13]. The acute presentation occurs due to severe pyogenic infection that is superimposed on the tubercular appendix [10]. There are no clinical features that are pathognomonic of appendicular TB, diagnosis is usually made after histopathological examination of the appendectomy specimen. TB appendix can be described as ulcerative (commonest form), hyperplastic and ulcer-hyperplastic form. Other causes of granulomatous appendicitis include parasite-related appendicitis, Crohn's disease, sarcoidosis and foreign body-induced inflammation [14]. Histopathology shows caseatingepithelioid cell granuloma with Langhan's giant cells.

Patients tarted treatment 2 months as intensive phase with 4 tablets of combined fixed dose 4drugs formula anti-TB medication (INH 75 mg, Rifampicin 150 mg, Pyrazinmaide 400 mg and Ethambutol 275 mg), then followed by 4 months continuation phase with 4 tabletsof combined fixed dose 2 drugs formula anti-TB medication (INH 75 mg and Rifampicin 150 mg). The patientwas doing well with his medication and he was healthy after follow up.

Conclusion

Tuberculosis of appendix is not associated with specific clinical features, and diagnosis is made only after histopathological examination. Therefore, it is recommended that all appendicectomy specimens should be send to histopathological examination to exclude tuberculosis especially in countries endemic with tuberculosis like Iraq.

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