CASE REPORT

IS IT TUBERCULOSIS OR CROHN'S DISEASE?

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Tuberculosis is very prevalent in countries like Pakistan. It can be a diagnostic challenge when it has extra pulmonary organ involvement. Variation in clinical signs and symptoms, lack of access to a specialist and limited financial resources often result in delayed diagnosis. This leads to an increase in overall morbidity and mortality. We are presenting a case of disseminated tuberculosis with predominant intestinal symptoms in an eleven years old boy. He remained undiagnosed for several years despite frequent visits to multiple general practitioners. After appropriate investigations and initiation of treatment for tuberculosis, he showed an excellent recovery.

Keywords: Ileo-colonoscopy; Tuberculosis; Crohn's Disease; Circumferential Ulcers

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INTRODUCTION

Tuberculosis results from mycobacterium tuberculosis. The word tuberculosis is derived from the word tubercle which means a nodule or a lump. Robert Koch was the first one to isolate the organism in the diseased tissue in 1882.[1] Pakistan ranks 5th among the 22 high burden countries sharing more than 60% of the total tuberculosis cases in the Eastern Mediterranean Region.[2] In 2001 tuberculosis was declared as a public health emergency in Pakistan and the National Treatment Program initiative was again launched with an added directly observed therapy short-course program.[3] Usually tuberculosis presents as pulmonary tuberculosis but it can involve any organ in the body. Mycobacteria disseminates to different organs of the body through lymphatic or haematogenous routes. It may remain dormant for many years at any specific site before the occurrence of its clinical manifestations. Symptoms usually relate to the system involved, or it may just cause prolonged mild fever and nonspecific systemic symptoms. This may result in a delayed diagnosis causing higher morbidity and mortality.[4] In our patient health professionals at primary and secondary health level were unable to diagnose intestinal tuberculosis. But with help of much needed investigations and anti-tuberculous treatment he made a complete recovery.

CASE

An 11-year-old boy presented in our outpatient clinic with 3 years history of mild fever, lower abdominal pain, loose stools often mixed with blood and mucus. Over a period of 4 months he had been vomiting almost once a day, several hours after taking meal and he also lost 25% of his body weight. There was no history of chronic cough, jaundice, oral ulcers, joint pains or abdominal distension. No history of tuberculosis contact at home or inflammatory bowel disease in family. He visited many local doctors and received medications with only partial or no response.

His examination revealed a 27 kg boy having pallor, clubbing and angular cheilosis. His abdomen was tender in both right and left lower quadrant with no palpable masses. No evidence of ascites was found. The perianal examination showed no fissures or fistulas. Rest of the systemic examination was unremarkable. Laboratory investigations at time of presentation showed haemoglobin = 8.0 g/dL (12.5–15.5 g/dL), MCV= 61 (76–95fL), Platelets = 525×10 ̂9/L (150–450×10^3/u/L), WBC= 7.2 (4–10×10^3 u/L) with 60%neutrophils and 30% lymphocytes, ESR=80(0-15) and serum albumin = 2.1 g/dL (3.5-5 g/dL).Routine urine culture, stool cultures and stool examination for ova, cyst, parasites and Clostridium difficile toxin were unremarkable. Hepatic, renal and coagulation profiles were normal.

His chest X- ray was normal (Figure- D) but the CT scan of chest showed right lung patchy endobronchial infiltrates with a tree-in- bud appearance (Figure-B). The abdominal CT scan showed thickening of terminal ileum, ileo-caecal junction and colon along with mesenteric lymphadenopathy (Figure-A). The Ileo-colonoscopy showed patchy involvement of colon and terminal ileum with ulcerated, erythematous and oedematous mucosa as shown in (Figure-C). Intestinal biopsies revealed chronic inflammation and granuloma formation with no evidence of mycobacteria or fungi. Based upon this clinical presentation and investigations, a diagnosis of intestinal tuberculosis was made and weight based anti-tuberculosis treatment was started. He responded well to the treatment and was discharged home. We followed him up regularly in our clinic and there were no further concerns with regards to his health. His body weight and laboratory investigations improved significantly after12 months of anti-tuberculosis treatment (Table-1).

Table-1: Improvement in weight and lab investigations before and after 12 months of anti-tuberculosis treatment

Investigations	Pre anti-tuberculosis Treatment	Post anti-tuberculosis Treatment
Weight	28 Kg	41 Kg
Haemoglobin	8 g/dL	11 g/dL
Albumin	2.1 g/dL	3.5 g/dL
ESR	80	11
Platelets	525	281

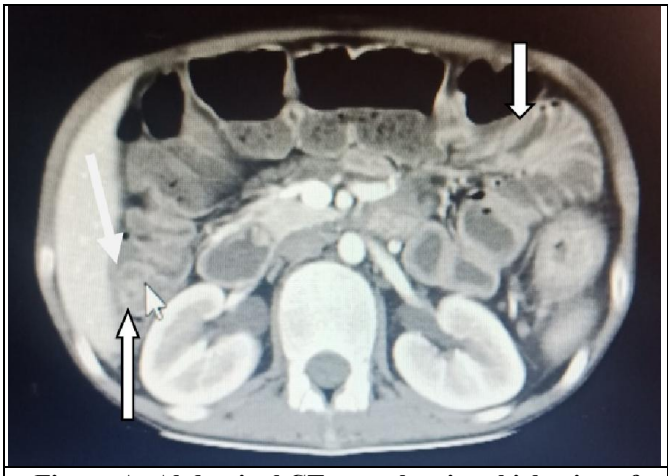

Figure-A: Abdominal CT scan showing thickening of ileo-caecal and right colon

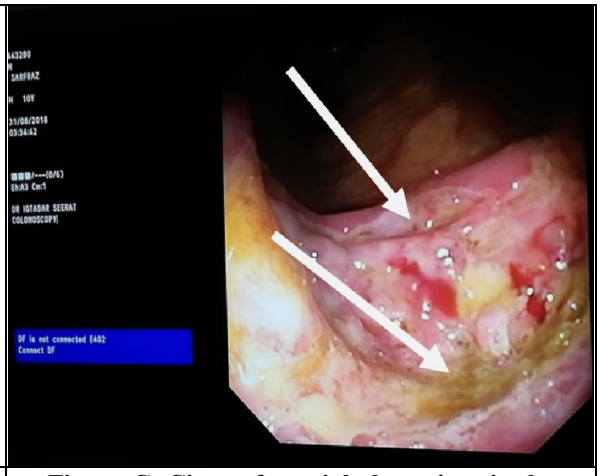

Figure-C: Circumferential ulcerations in the ileo-caecal region.

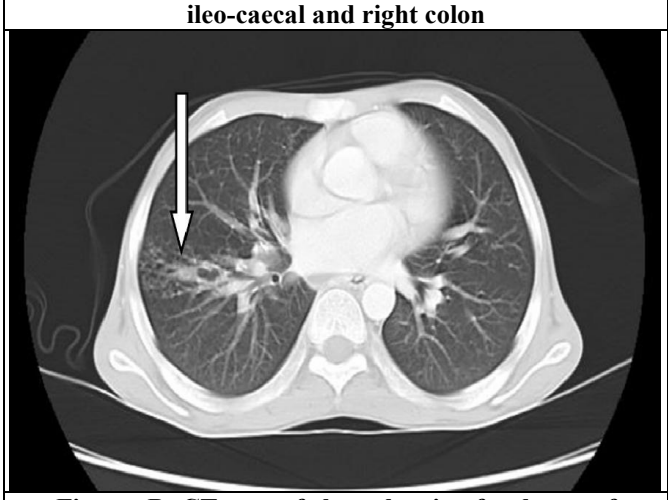

Figure- B: CT scan of chest showing focal area of centrilobular nodules demonstrating tree-in- bud appearance in the right lung.

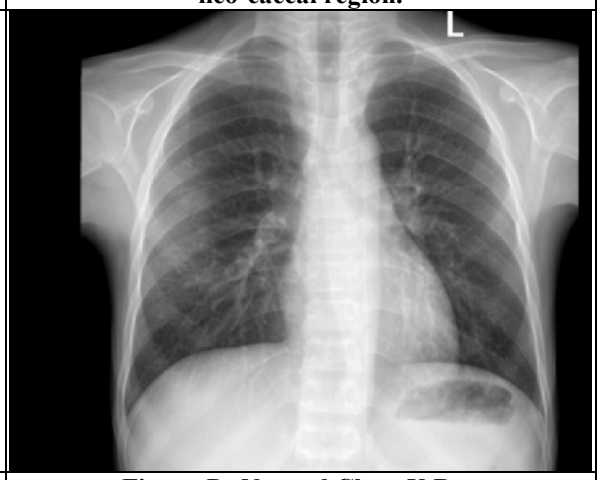

Figure-D: Normal Chest X Ray

DISCUSSION

Intestinal tuberculosis is very common in Pakistan. It can present as ulcerative, hypertrophic or ulcero-hypertrophic. The ulcerative type is the most common type.[5–7]

Intestinal tuberculosis presents with nonspecific clinical features and therefore it is difficult to differentiate it from other intestinal diseases.[8] Crohn's disease is among one of the closest differentials of intestinal tuberculosis. Crohn's disease can present like tuberculosis except that it lacks the organism. Crohn's disease prevalence is less common than tuberculosis in south Asian region. Crohn's disease generally does not involve chest but may involve any part of the gut resulting in skip lesions in contrary to tuberculosis which commonly affects chest and ileo-caecal region in the gastrointestinal tract. Intestinal ulcers dimensions are transverse or circumferential in tuberculosis enteritis whereas Crohn's disease has linear ulcers along the bowel axis.[9,10]

Treatment options for both diseases are different and there lies a risk of tuberculosis flare up if steroids are introduced to induce remission in a tuberculosis patient misdiagnosed as Crohn's disease.[11]Hence a great deal of care and knowledge is required to identify the two entities.

In our case patchy involvement of the bowel on ileo-colonoscopy and a normal chest X-ray favoured the diagnosis of Crohn's disease. Intestinal biopsies revealed granulomatous inflammation and it was difficult to characterise it as a caseating or a non- caseating granuloma. But the typical circumferential and horizontal ulcerations in the ileo-caecal region and the features of infective process on the chest CT scan (Figure-B) tilted the diagnosis in favour of tuberculosis. It led to prompt introduction of weight based anti-tuberculosis medications followed by excellent response and catch up growth.

CONCLUSION

It is difficult to differentiate between intestinal tuberculosis and Crohn's disease in children. But certain investigations like chest &abdominal CT or MRI scans and ileo-colonoscopy in expert hands may help to diagnose intestinal tuberculosis. Hence the appropriate diagnosis and treatment are required in order to reduce morbidity and mortality.

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