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Case Report

A case report on abdominal tuberculosis in a patient presenting with symptoms of anaemia

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ABSTRACT

Tuberculosis remains a major global health problem. It is estimated that about one-third of the current global population is infected asymptomatically with tuberculosis, of whom 5-10% will develop clinical disease during their lifetime. India has the highest TB burden in the world in terms of absolute number of incident cases that occur each year. It accounts for one-fourth of the estimated global incident TB cases in 2013. The estimated TB prevalence in India for 2015 is 2.5 million. Intestinal tuberculosis is one of the important manifestations of extra-pulmonary tuberculosis. In this case study, a 27 year old male presented with complaints of excessive tiredness and lethargy suggestive of anaemia and was later diagnosed with Intestinal tuberculosis and treated for the same.

Keywords: Extra-pulmonary tuberculosis, Anaemia, Intestinal tuberculosis, TB burden

INTRODUCTION

TB of the gastrointestinal tract is the sixth most frequent form of extra-pulmonary site, after lymphatic, genitourinary, bone and joint, miliary and meningeal tuberculosis.[1] The most common site of involvement is ileocaecal region. The postulated mechanisms by which the tubercule bacilli reach the gastrointestinal tract are: (i) hematogenous spread from the primary lung focus in childhood, with later reactivation; (ii) ingestion of bacilli in sputum from active pulmonary focus; (iii) direct spread from adjacent organs; and (iv) and through lymph channels from infected nodes.[1] In India, the organism isolated from all intestinal tuberculous lesions has been *Mycobacterium tuberculosis* and not *M. bovis*. Abdominal tuberculosis is predominantly a disease of young adults. Two-thirds of the patients are 21-40 yr old and the sex incidence is equal. Clinical features of intestinal TB include abdominal pain, weight loss, anemia and fever with night sweats. Patients may present with symptoms of obstruction, right iliac fossa pain, or a palpable mass in the right iliac fossa. Hemorrhage and perforation are recognized complications of intestinal TB, although free perforation is less frequent than in Crohn disease.[2]

CASE PRESENTATION

A 27 year old male came to my clinic on 16.8.2016 with complaints of excessive tiredness and lethargy. He has occasional mild abdominal pain on and off. He has no past history of fever, diabetes, tuberculosis, weight loss or any surgeries. He gives history of dark coloured stools for past 2 weeks. The patient did not receive BCG vaccination at his birth. Examination findings-patient moderately built and nourished. On general examination pallor was present as evidenced from inspection of palpebral conjunctiva. On examination of cardiovascular and respiratory system no abnormality could be detected. On abdominal examination, mild tenderness present in

epigastric and para-umbilical areas otherwise abdomen was soft on palpation and no organomegaly or mass could be detected. Patient was asked to take a panel of blood tests along with stool examination (17.8.2016). His Haemoglobin level (Hb) was very low 6.8%, peripheral blood smear showed microcytic, hypochromic anaemia and stool examination revealed occult blood. HIV and HBsAg tests were negative. Upper GI Endoscopy revealed lower oseophagitis. Ultrasound reports were normal. He was treated with two units of packed cell transfusion along with proton pump inhibitor Rabeprazole and oral iron supplements for 2 months. Hb levels steadily increased 10.8% (on 20.8.2016) and 12.4% (on 31.10.2016). Patient improved symptomatically but patient's Hb dropped to 10.9% on 26.11.2016 which warranted further investigations (Table 1); colonoscopy report was normal, stool examination revealed occult blood and capsule endoscopy (Figure 1) was done on 5.12.2016 which showed multiple large ulcers from the mid jejunum. Some areas showed scarring with healing. There are areas of ulcers involving the entire circumference of the small bowel with capsule struggling to pass through suggestive of possible structuring. Findings were suggestive of probable Crohn's disease. CT abdomen showed mesenteric lymph node enlargement suggestive of intestinal tuberculosis. Interferon gamma release assay was positive (12.22 IU/ml) suggestive of TB and fecal calprotectin level was normal (32 microgram/gram) suggestive of absence of Crohn's disease. Chest xray revealed no abnormalities. The above findings favoured the diagnosis of intestinal tuberculosis thus ruling out Crohn's disease. Patient was started with antituberculous drugs and got symptomatically improved.

Table 1: Blood test report.

Tests	17.8.16	20.8.16	31.10.16	26.11.16	15.1.17	15.2.17	4.3.17	Normal values
RBC	3.6	4.3	5.1	4.4	4.2	4.5	4.6	4.5-6 million/mm^3
Hb	6.8	10.8	12.4	10.9	10.4	9.8	9.9	13.5-18%
PCV	24.6	35	40	34.2	32.9	33.9	32	40-54%
MCV	67.8	72.8	77.6	77.7	78.2	75.2	68.8	78-94 fl
MCH	19	22.5	24.1	24.9	24.6	21.7	21.2	27-32 pg
MCHC	28	30.9	31.1	32	31.5	28.9	30.9	30-36%
TLC	6000	6700	7800	5500	5200	5100	4300	4000-11000 cells/mm^3
Platelet count	4.4	4.0	4.0	5.77	4.2	4.1	3.74	1.5-4.5 lakhs/mm^3
Bleeding time	1.40 min	-	-	-	-	-	-	1-4 min
Clotting time	4.35 min	-	-	-	-	-	-	3-7 min

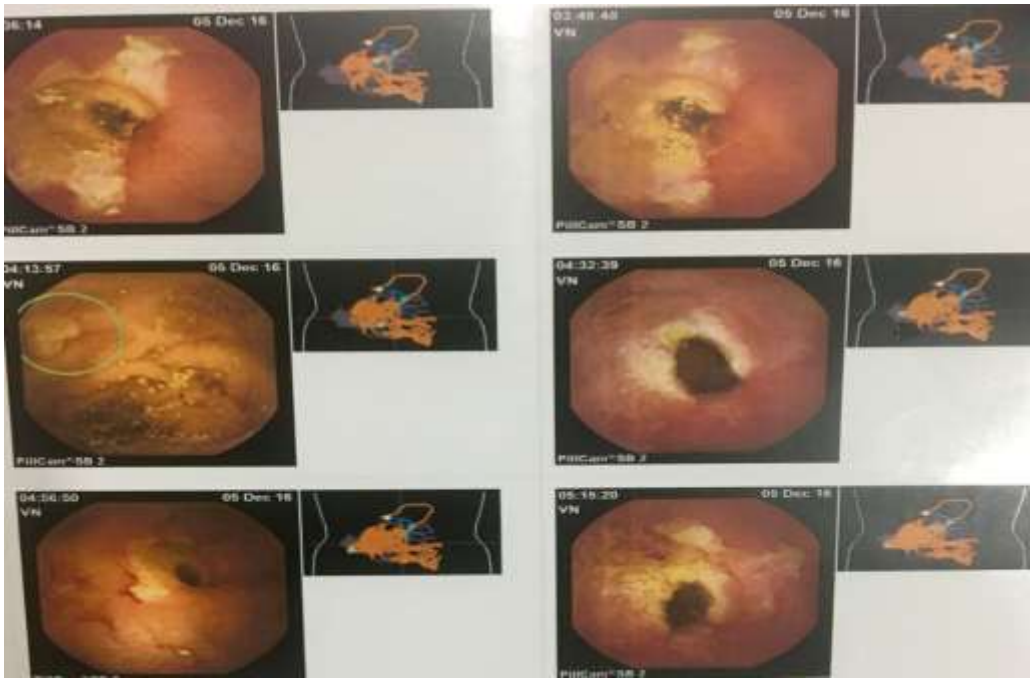

Figure 1: Capsule endoscopy showing areas of ulcer and scarring in small intestine.

Table 2: Blood and stool parameters carried out for tuberculosis.

Tests	17.8.16	17.9.16	31.10.16	26.11.16	13.12.16	29.12.16	7.3.17	Normal values
TSH	3.67	-	-	-	-	-	-	0.35-5.50 Uiu/ml
ESR	25 mm 50 mm	-	10 mm 21 mm	-	-	-	-	5-10 mm
p-ANCA c-ANCA	-	-	-	-	Negative negative	-	-	
ASCA-IgG	-	-	-	-	-	-	negative	
CRP	-	-	-	-	5.15	-	-	<=3 mg/l
Iron	30 ug/dl	-	-	23 ug/dl	-	-	-	65-175 ug/dl
Ferritin	2.1	-	-	12	-	-	-	22-322 ng/ml
Folic acid	11.8 ng/ml	18.8 ng/ml	-	-	-	-		>5.38 ng/ml
Interferon Gammar release assay	-	-	-	-	Positive 12.22 IU/ml	-	-	Negative<0.35 Positive≥0.35
Peripheral blood smear	Microcytic hypochromic anaemia	-	-	Microcytic hypochromic anaemia	-	-	-	
HbA1C	5.9%	-	-	-	-	-	-	<6%
Faecal calprotectin						32	35	<50 ug/l

DISCUSSION

Even though the patient presented with symptoms of anaemia such as excessive tiredness and lethargy, further investigations to find out the cause of anaemia revealed the presence of multiple large ulcers from the mid jejunum and extending through the course of ileum with scarring and stricture formation. Even though patient presented with anaemia and vague abdominal pain other clinical features of intestinal tuberculosis such as fever with night sweats, weight loss and palpable abdominal mass were absent. Points in favour of the diagnosis of abdominal tuberculosis are –anaemia, elevated ESR&CRP, multiple ulcers with scarring and stricture formation in mid jejunum and ileum, CT scan showing mesenteric lymphadenopathy, positive interferon gamma release assay (12.22 IU/ml) (Table 2), normal chest X-ray and faecal calprotectin levels within normal range. In Crohn's disease faecal calprotectin level will be usually elevated.[3-5] Patient not receiving BCG vaccination at his childhood could also be a contributing factor.

CONCLUSION

In tuberculosis endemic countries like India, it is important to suspect intestinal tuberculosis in patients presenting with symptoms of anaemia, abdominal pain and having multiple ulcers with scarring and stricture formation in ileum. Intestinal tuberculosis can be differentiated from Crohn's disease by taking CT scan of the abdomen, measuring interferon gamma release assay which will be positive in tuberculous infection and faecal calprotectin levels which will be usually elevated in Crohn's disease. History of BCG vaccination at childhood should also be determined, failure of which can predispose a patient to miliary tuberculosis.

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