

## Tuberculosis of the Large Bowel Mimicking as Colon Cancer in a Young Patient

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### Abstract

A young male being evaluated for abdominal pain, weight loss and altered bowel habits, was evaluated with initial workup being unremarkable and later on found to have raised ESR (64 mm/hr) and a positive PPD. Lower GI endoscopy revealed a mass lesion in the transverse colon, which was completely obstructing the lumen. Biopsies were taken and showed findings suggestive of tuberculosis. ID review was taken and he was started on ATT, 1 month post therapy, he had a remarkable recovery with regaining of his lost weight and appetite.

**Keywords:** Tuberculosis; Colon; Colon Cancer; Antituberculosis Therapy (ATT); MTb PCR

### Case History

A young male, student by profession, presented to our outpatients' department having abdominal pain, weight loss along with altered bowel habits since the past 6 months. His abdominal pain was diffuse in character, colicky in nature, moderate in intensity, having no aggravating factors but was relieved by antispasmodics. This was associated with a history of significant weight loss of 10 kg in the past 6 months along with a history of altered bowel habits, which was constipation predominantly. There was no history of per rectal bleed or of fever. For these complains he was thoroughly investigated and underwent laboratory investigations which showed: Hb 9.0 g/dl, MCV 63 fL, TLC  $5.5 \times 10^9$  U/L, Platelets  $227 \times 10^9$  U/L, Creatinine 0.6 mg/dl, SGOT 34 IU/L, SGPT 27 IU/L, ESR 64 mm/hour, PPD was 25 mm.

Stool DR revealed no pus cells nor any red blood cells, while Stool CS showed no growth.

He initially underwent colonoscopy at another hospital, which was suggestive of a mass lesion located in the transverse colon that was completely obstructing the lumen. However, the biopsies of the lesions were inclusive. He was then referred to our setup, his CT CAP was planned, and in the meantime an upper and lower GI endoscopies were performed. The findings on his upper GI endoscopy showed mild antral erythema with normal looking bulb and distal duodenum, while lower GI endoscopy showed an edematous, erythematous, friable growth noted in the transverse colon, multiple biopsies of the growth were taken. Biopsies of upper GI were non-specific while lower GI endoscopy growth biopsy showed intact colonic mucosa with epitheloid tissue and caseation but no evidence of malignancy was evident.

His CT scan chest report showed multiple centrilobular nodules diffusely involving both lung fields more in the upper lobe in a linear pattern and giving tree in bud appearance suggestive of tuberculosis.

Based on the CT findings and positive PPD and raised ESR, we applied ZN stain followed by Gene Xpert and MTB PCR on his biopsy sample. The latter demonstrated the presence of Mycobacterium Tuberculosis.

ID consult was sought and the patient was started on Anti tuberculosis (ATT) therapy. The patient had an uneventful course with the resolution of his symptoms and presented 2 month later having regained his lost weight and his appetite. He was later scheduled for a lower GI endoscopy, which revealed disappearance of his mass lesion.

## Discussion

Tuberculosis (TB), a common infection having a global incidence of 9.4 million cases [1] and accounts for a major health burden in the developing world [2]. Intestinal TB, being a rare manifestation of pulmonary tuberculosis accounts for only 5 % cases of extra pulmonary Tb in the USA [3]. Tuberculosis of the GIT mainly involves the terminal ileum [1], the main reason being the presence of numerous lymph nodes in this region and stasis [4].

While Tb affecting only the colon is rarely appreciated, affecting only 2 % of the patients and its symptoms being non-specific [5].

Tuberculosis bacilli enters the intestinal tract by hematogenous spread in a patient having active pulmonary tuberculosis from either ingestion of the infective sputum or intake of contaminated food items. After penetrating the GI mucosa, inflammatory reaction along with granuloma formation occurs [4].

The main presenting complains noted are abdominal pain along with symptoms related to the mass [5]. Nonspecific symptoms make early diagnosis difficult.

Although Tb and colon cancer can be seen together, however endoscopic and histological examination are useless in their differentiation [5].

Routine workup including cultures only reveal anemia and raised inflammatory markers. MTb culture of the stool or sputum is said to have a yield of 50%. While the use of AFB and MTB PCR on intestinal biopsy sample has a positivity of 17% and 29% [4].

Endoscopically the findings of circumferential ulcers with inflammation is mostly noted [4]. While history reveals caseating granuloma. Caseating granuloma with AFB positivity both can be found in less than 33% of the cases [4].

Abdominal Tb is very responsive to medical therapy namely ATT with only a few cases requiring surgical intervention [6].

Treatment is based on ATT (that is rifampicin, isoniazid, pyrazinamide, and ethambutol given initially for two months followed by rifampicin plus isoniazid for an additional six months) [4].



**Image 1:** A, B, C: Lower GI endoscopy and biopsy image showing a large edematous growth completely obstructing the lumen.

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**Image 2:** CT SCAN Chest shows multiple centrilobular nodules diffusely involving both lung fields.

## Conclusion

Hence, our case report shows how tuberculosis can mimic colonic carcinoma and when considering mass lesions of the colon especially in endemic areas, tuberculosis should be kept in the differentials, however this can successfully be managed in most cases with ATT therapy only.

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