

# Colonic Tuberculosis Masquerading as Colon Cancer

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## Abstract

Isolated colonic tuberculosis (TB) is rare, and the symptoms are nonspecific making early diagnosis and management difficult. Although colonoscopy and biopsy is an important diagnostic modality, the features are variable and the distinction from other conditions of the colon, especially Crohn's disease and cancer, may be impossible without surgical resection. Diagnostic laparoscopy is now emerging as a valuable diagnostic tool; however, erroneous diagnosis may be made. We report a case of ascending colon TB which was mistaken for colonic cancer at laparoscopy. The diagnosis was finally made when the histopathology report was received. The diagnostic dilemma of colonic TB is discussed.

## INTRODUCTION

Abdominal tuberculosis (TB) is not uncommon in the developing world, but isolated colonic TB is rare; it has been estimated that 2-3% of patients with abdominal TB have isolated colonic involvement<sup>1</sup>. It also accounts for 10.8% of all gastrointestinal TB with the commonest affected site being the transverse colon, followed by rectum and ascending colon.<sup>2</sup> It commonly presents with vague abdominal pain, fever, weight loss, diarrhea and abdominal mass. In more than two thirds of affected patients, there is no evidence of pulmonary TB.<sup>3</sup> We report a case of ascending colon tuberculosis masquerading as disseminated carcinoma.

## CASE REPORT

A 50-year-old Filipino male presented with 6-month history of vague right-sided abdominal pain, diarrhoea, and weight loss. Clinical examination revealed cachexia, pallor but no lymphadenopathy or jaundice. He was afebrile with a palpable mobile mass in the right hypochondrium which was non-tender and measured 7x5cm. Blood tests revealed hypochromic microcytic anaemia, and slightly raised ESR and C-reactive protein. Tumor markers, renal and hepatic panels were normal. His chest x-ray was normal, but computed tomography (CT) scan of the abdomen revealed a large polypoid mass lesion in the right colon extending from the ileo-caecal valve with lumen-narrowing and mildly enlarged pericolic lymph nodes. The liver was grossly normal (Figure 1). Colonoscopy revealed a polypoidal mass in the proximal part of the ascending colon (Figure 2). Biopsies revealed inflammatory changes but no evidence of

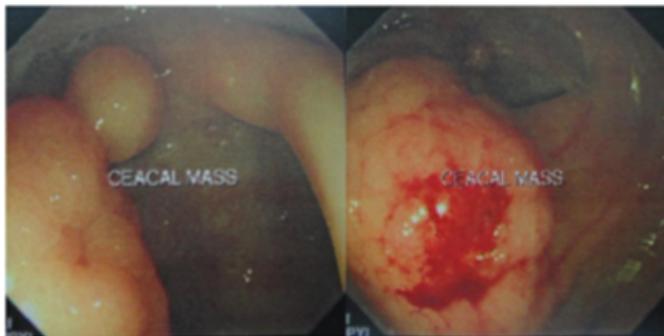
malignancy. Despite negative colonoscopic biopsies, a provisional diagnosis of right colonic cancer was made and he was prepared for laparoscopic right hemicolectomy. At laparoscopy the mass in the subhepatic area was recognized (Figure 3) with minimal free straw-color peritoneal fluid. There was also an intense peritoneal reaction with peritoneal, omental and small-bowel serosal seedlings (Figures 4). A provisional diagnosis of advanced carcinomatosis was made. Hence, multiple biopsies of the peritoneal and omental nodules were taken and as the patient was not obstructed, no resection was performed. Histopathology revealed caseating granulomas diagnostic of TB (Figure 5). He was started on anti-tuberculous therapy consisting of daily doses of isoniazid 400mg, rifampicin 600mg and ethambutol 900mg for two months, followed by four months of isoniazid and rifampicin therapy; the whole treatment lasted six months. The patient made a complete recovery without complications and remained well at 2-year follow-up.

**Figure 1**  
FIGURE 1:



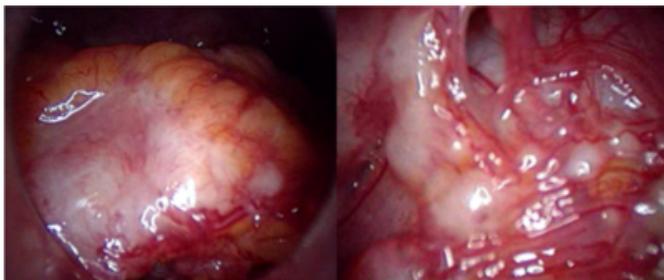
Computed tomography scan showing a polypoid mass in the right colon with lumen-narrowing and mildly enlarged pericolic lymph nodes

**Figure 2**  
FIGURE 2:



Colonoscopic view of the polypoidal mass lesion in the ascending colon

**Figure 3**  
FIGURE 3:



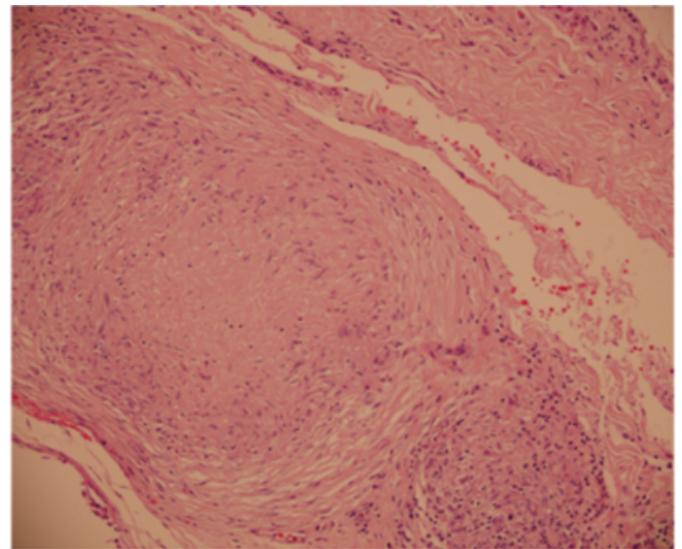
Laparoscopic view of the colonic mass and the peritoneal nodules that mimicked secondaries

**Figure 4**  
FIGURE 4:



Laparoscopic view of the peritoneal nodules that were confused with metastatic seedlings

**Figure 5**  
FIGURE 5:



Micrograph of the peritoneal nodule biopsy showing numerous granulomas, some of them with central caseation necrosis (H&E, x400)

## **DISCUSSION**

Abdominal TB continues to be a major health problem in the developing world. The incidence of colon TB is increasing with the rise in numbers of high risk patients such as HIV-

infected individuals, patients with chronic renal disease, and immunosuppressed patients on immunosuppressive or prolonged steroid therapy. Most reported colonic TB cases in non-immunosuppressed individuals come from the Indian subcontinent.<sup>1-6</sup> The most common presenting symptom and abnormal physical sign are abdominal pain and abdominal mass (90% and 58% of patients, respectively).<sup>7</sup> Varied and nonspecific presenting symptoms make early diagnosis difficult and elusive with subsequent delays in management. To avoid such a dangerous delay in management, some authors recommend a trial of anti-tuberculous chemotherapy in patients with high clinical suspicion on the basis of colonoscopic appearance alone, even in the absence of the classic features of TB, after ruling out other causes, especially cancer and Crohn's disease by histopathological examination.<sup>1,3,4,6</sup>

TB and colon cancer may, however, coexist.<sup>8,9</sup> This coexistence may be of high frequency necessitating the need for epidemiological and histopathological investigations into the aetiological relationship between the two diseases.<sup>10</sup> Colonoscopic examination with combined histopathologic and bacteriologic study of biopsy specimens is a powerful tool for the diagnosis of intestinal TB in 60% of patients without the need for resectional surgery.<sup>1,11</sup> However, the colonoscopic features are quite variable, but typically are those of circumferential ulceration or a single ulcer with an elevated or nodular margin surrounded by hyperemic mucosa.<sup>3,7,11</sup> Other colonoscopic features include nodules, deformed segment of the colon, polypoid lesions or pseudopolyps, strictures and, less commonly, fibrous bands forming mucosal bridges.<sup>3,7,11</sup> Like in this case, tuberculous lesions may mimic carcinoma in 20% of cases and acid-fast bacilli (AFB) may not be isolated at all.<sup>6</sup> Nevertheless, polymerase chain reaction (PCR) analysis of a colonic biopsy may reveal AFB of the mycobacterium tuberculosis species. It is a rapid, sensitive, and specific method in the diagnosis of intestinal TB. It is also valuable in the differentiation between intestinal TB and Crohn's disease.<sup>12</sup>

Imaging plays a diagnostic role with features that suggest the correct diagnosis. Such features are cecal amputation, ileocecal thickening and inflammation, shortening of the ascending colon, gaping of the ileocecal valve, mesenteric adenopathy, a misty mesentery, diffuse omental infiltration, loculated high-density ascites, an enhancing peritoneum with

or without an omental line, nodularity of the surface of the mesenteric leaves, and transperitoneal permeation.<sup>13</sup> Other commonly observed radiological findings include strictures (54%), colitis (39%) and less frequently polypoid lesions (7%).<sup>13</sup> Complications noted were in the form of perforations and fistulae in less than 20% of cases.<sup>2</sup>

## CONCLUSION

This case highlights the ease with which colonic TB may be mistaken for colonic cancer and the dilemma of diagnosing it radiologically and endoscopically. It also highlights the valuable tool of diagnostic laparoscopy, but also the ease with which the diagnosis may be mistaken for cancer without the final histological diagnosis.

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