

**Case report**

**Colonic adenocarcinoma with coexisting tuberculosis: an unusual presentation**

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**Abstract:**

Tuberculosis affecting the colon is an uncommon extra-pulmonary form of the disease, and its association with malignancy is highly unusual. A 66 year man presented with lower gastrointestinal bleeding altered bowel habit and significant weight loss. On examination, he had ulcerinfiltrative growth in the descending colon, with friable mucosa, bleeds easily on touch. With the diagnosis of carcinoma of the descending colon, he underwent left hemicolectomy. The histopathological examination revealed carcinoma colon with coexisting tuberculosis. The aetiological association between the tuberculosis and colon cancer is a matter of debate. However, the treating surgeon should be aware of this association, to avoid confusion and delay in the management.

**Keywords:** Colon, Colonic adenocarcinoma, Coexisting tuberculosis.

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**Introduction:**

Co-existence of carcinoma and Tuberculosis (TB) was described by many pathologists. Simultaneous occurrence of both TB and cancer in the same organ causes a diagnostic dilemma.<sup>1</sup> This coexistence is unusual and has bewildered surgeons and scientists alike for over two centuries.<sup>2</sup> TB may coexist with malignancies in various ways. The most common association being pulmonary TB associated with malignancies at various sites.<sup>3</sup> TB can involve any part of the gastrointestinal tract (GIT) from mouth to anus, the peritoneum and the pancreatobiliary system.<sup>4</sup> GIT is the sixth most frequent site of extra pulmonary involvement by TB, ileocaecal region being the most common site.<sup>5</sup> Colonic TB is rare; it has been estimated that 2-3% of patients with abdominal TB.<sup>6</sup> Synchronous TB and adenocarcinoma of the colon is a rare finding with only a few reports in the literature coexisting.<sup>7</sup> The coexistence of TB and carcinoma in the

colon may be simply a coincidence.<sup>8</sup> The paths of gastrointestinal infection include dissemination through the intake of infected sputum, hematogenous dissemination of tuberculosis foci at the pulmonary level or in the submucosal lymphatic nodes, and local dissemination from the primarily infected neighboring organs.<sup>9</sup> Intestinal tuberculosis should be diagnosed based on overall considerations, including clinical manifestations, colonoscopy findings, and biopsy.<sup>10</sup> We presenting this case of co-existence of colon cancer with tuberculosis for rarity.

**Case report:**

A 66-year-old, non-diabetic male farmer having the habit of smoking for 40-years had presented to his general practitioner for almost 3 months with the complaints of fatigue, abdominal pain, altered bowel habit and occasional bleeding per rectum along with weight loss. There was no history of pulmonary symptoms such as cough, hemoptysis

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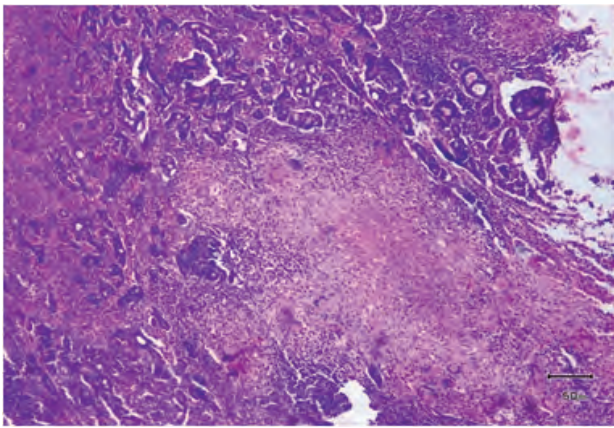


Fig 1: Granuloma with Adenocarcinoma (40X)

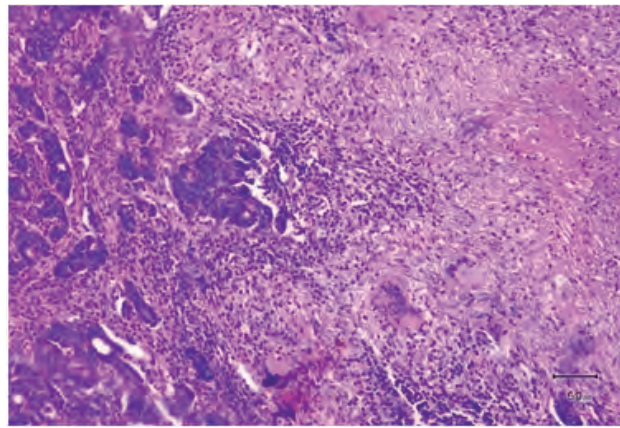


Fig 2: Granuloma with Lang Hans giant cell (100X)(H&E stain)

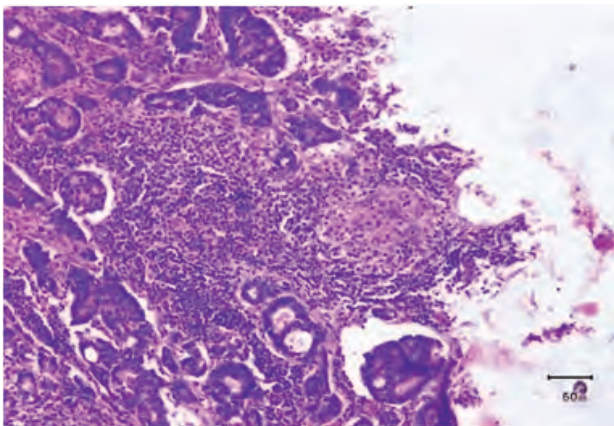


Fig 3: Epithelioid cells with adenocarcinoma (100X)

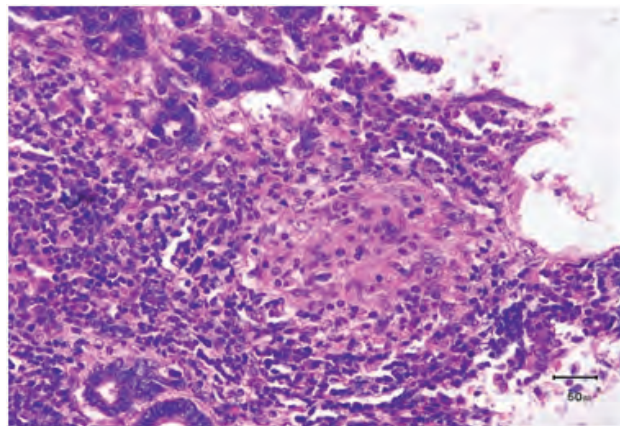


Fig4: Granuloma showing epithelioid cell cluster(200X) (H&E stain)

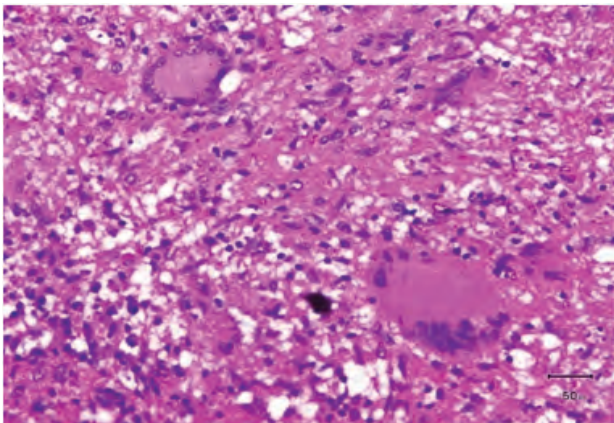


Fig 5: Langhans type giant cell (400X, H& E stain)

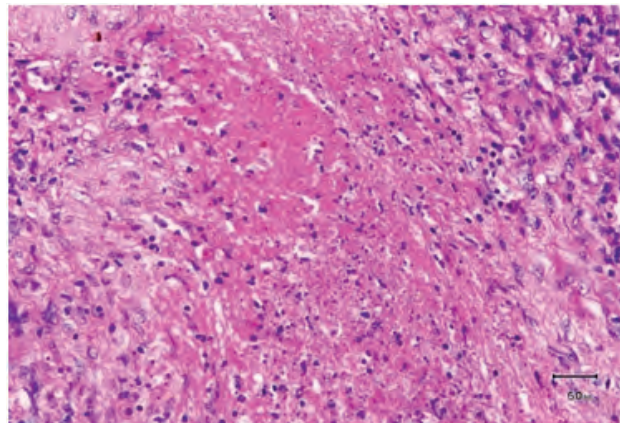


Fig 6: Caseous necrosis (400X: H&E stain)

or shortness of breath. He had no family history of colorectal carcinoma. Hematological profile revealed normocytic normochromic anemia with a raised ESR. Occult Blood Test (OBT) was positive. Chest X-ray was normal. Ultrasonography of abdomen revealed a bowel mass. Provisional diagnosis of carcinoma colon was made and was referred to Department of Surgery of Chittagong Medical College Hospital, Bangladesh for next plan

of treatment.

A colonoscopy revealed a partially constricting ulceroinfiltrative mass at the descending colon and a biopsy confirmed adenocarcinoma. He underwent left hemicolectomy and the specimen was sent to Department of Pathology, Chittagong Medical College, Bangladesh for histopathological evaluation.

Resected segment of colon measured 25 cm in

length was received along with mesentery. An ulceroinfiltrative growth was identified at the lower end of the colon at the luminal side sparing 2 cm from the distal end. Three lymph nodes were dissected from the corresponding mesentery.

Microscopic examination from the growth confirmed a well differentiated adenocarcinoma infiltrating subserosa. Within the tumor mass there was multiple caseating and non-caseating granuloma comprising of caseation necrosis, aggregates of epithelioid cells and Langhans-type giant cells resembling to tubercular granuloma (Fig: 1-6).

**Figures (Colonic adenocarcinoma with coexisting tuberculosis: an unusual presentation)**

The margins of the resected specimen and the mesentery were free of tumor. None of the three lymph nodes were involved by the tumor or granuloma. So, the histopathological diagnosis was made as well differentiated adenocarcinoma of colon (Stage: T3 N0 Mx) coexisting with granulomatous inflammation consistent with tuberculosis.

**Discussion:**

The association between TB and cancer can occur in several ways (Table I).

**Table I: Possible associations between cancer and TB.<sup>1</sup>**

- A chance coincidence without any apparent relation
- Metastatic carcinoma developing in an old TB lesion
- Secondary infection of cancer with TB
- Chronic progressive tubercle in which a carcinoma develops
- Simultaneous development of both TB and cancer

Even though the relationship between chronic inflammation and cancer is well established, causal relationship between TB and cancer is not well understood.<sup>1</sup>

Arguably, the first published description of coexisting tuberculosis and carcinoma was that of Boyle who described “cavitation cancreuse” as one of the six types of tuberculosis. The association of tuberculosis and cancer has since been recorded in most organs by various authors. Carcinoma in different parts of the colon with intestinal TB have been reported by Paustian.<sup>2</sup> Ileocaecal region is the most common site for intestinal TB, possibly owing to its abundance of lymphoid tissue, increased physiological stasis and decreased digestive activity at this site. But our case showed presence of tuberculosis at the site of

presence of carcinoma, the colon, which is a very rare site for the occurrence for tuberculosis.<sup>5</sup> It has been proposed that it can be spread by ingestion of contaminated food, by swallowing infected sputum, by hematogenous spread from the primary lung focus in childhood with later reactivation, by retrograde lymphatic spread or direct spread from infected organs.<sup>7</sup> The association of these two conditions has been a matter of debate. The coexistence of tuberculosis and carcinoma in the colon may be simply a coincidence. On the other hand, one disease process might have initiated the second. Some authors have postulated that cancer of the colon is the primary lesion, followed by secondary infection of the tuberculous bacilli in the malignant ulcer, which might have been facilitated by luminal obstruction, impaired cellular immunity and loss of mucosal barrier. However, Mishra et al have suggested that the long standing tuberculous ulcer may be carcinogenic, with development of invasive carcinoma.<sup>8</sup> Colorectal carcinoma usually presents with rectal bleeding, change in bowel habits like diarrhea alternating with constipation and pain abdomen. Manifestations of colonic tuberculosis include fever anorexia, weight loss and change in bowel habits. Pain abdomen is the predominant symptom and hematochezia occurs in less than one third.<sup>5</sup> Patient in our case presented had a history of significant weight loss, pain abdomen and rectal bleeding. Though Mycobacterium tuberculosis may not be demonstrated in the biopsy materials, presence of caseous necrosis is considered an important criterion for diagnosis of intestinal tuberculosis.<sup>3</sup>

Since colorectal adenocarcinoma with concomitant TB is rare, we consider this case as a coincidence. A definite diagnosis can be established only by histopathological evaluation which helps in proper treatment of the patient.

**Authors’ Contribution**

MIH: Contributed to the pathological diagnosis and drafting of manuscript.

NCD: Taking the clinical details and written informed consent from the patients for publication.

PB: Literature search.

MSUA: Helped in drafting the manuscript.

ZR: Edited the manuscript.

**Conflict of Interests**

The authors declare that there are no conflicts of interests.

**Ethical Considerations**

Written informed consent was obtained from the patient for publication of this case report.  
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