



Concomitant Colon Adenocarcinoma and Tuberculous Lymphadenitis

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Abstract

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Background : Colon involvement in tuberculosis infection is a rare event. The coexistence of colon carcinoma and tuberculous lesions of the colon is less frequently reported. Carcinoma and tuberculosis of the colon can occur at the same site or at different sites. The occurrence of two pathologies at the same site is much less common.

Case Presentation : A 52 year old woman complained of difficulty defecating, an enlarged stomach, pain and decreased appetite and weight loss within one month. On clinical examination, the abdomen appeared convex, slightly distended, and tenderness in the left lower iliac quadrant. Radiological examination supported the diagnose of partial obstructive ileus. The patient was diagnosed with adenocarcinoma of the ascending colon until the hepatic flexura was confirmed through surgery and histopathological examination. On histopathological examination, adenocarcinoma of the colon was found to coexistence with tuberculous lymphadenitis of the colon.

Conclusion : The etiological and pathophysiological relationship between tuberculous lymphadenitis and colon cancer is still under debate, but surgeons need to be aware of this occurrence, to choose treatment and avoid post-operative worsening.

Keywords : colon adenocarcinoma, tuberculous lymphadenitis

INTRODUCTION

Gastrointestinal tuberculosis is the third most common form of extrapulmonary tuberculosis (EPTB) with the most common site of infection being the ileocaecal junction, followed by the jejunum and colon. Colon involvement in tuberculosis is a rare event even in regions where TB is endemic, including India, accounting for approximately 3-4% of intestinal TB cases. Coexistence of colon carcinoma with tuberculous lesions in the small intestine has been reported, but coexistence of colon carcinoma with TB is rarely reported. Carcinoma and TB can occur at the same site or at different sites in the large intestine. The occurrence of two pathologies in the same site is relatively rare. Some studies say that this coexistence occurred by chance, while other studies show cause and effect where TB is a precursor to coexistence.^{1,2}

Coexistence of TB with many other carcinomas has been reported in the literature. Kaplan *et al* stated that TB is most often seen in patients with Hodgkin's disease, lung cancer, lymphosarcoma and reticulum cell sarcoma.³ The coexistence of tuberculosis and colon carcinoma not only influences the diagnosis and management plan but also influences the complication rate, prognosis and follow-up plan.

This paper reports a case of a patient with concomitant colon carcinoma and colon tuberculosis.

CASE PRESENTATION

A 52 year old female patient presented with chief complaints of constipation but occasionally experienced diarrhea, since a year before admission. On the day he was admitted to the hospital, he complained that the feces

mixed with fresh blood in large quantities so that the patient fainted and was taken to the Emergency Department. The patient could still fart, complained of an enlarged and painful stomach for the last one year and was getting worse three days before admission. The patient complained of nausea and vomiting, decreased appetite and weight loss of 10 kg in the last month. The patient did not complain of shortness of breath or coughing.

History of diabetes mellitus, hypertension, chronic intestinal disease or tuberculosis was denied. On physical examination, the abdomen appeared convex and slightly distended, weak bowel sounds were heard in the right upper quadrant, and tenderness in the left lower iliac quadrant. A plain abdominal radiograph revealed early sign of ileus obstruction. Chest x-ray examination did not reveal cavities, foci of pain and perihilary lymphadenopathy.

The differential diagnosis of this case is ulcerative colitis. Colon cancer and ulcerative colitis have some similar symptoms, such as gastrointestinal bleeding, abdominal pain in the left lower quadrant, and weight loss.

On 25 February 2020, the patient underwent an extended hemicolectomy dextra procedure. Considering systemic factors, namely hypoalbuminemia and local dilatation of the ileum, it was decided to perform an end ileostomy and install an intra-abdominal drain. During the operation, a tumor mass was found in the ascending colon up to the hepatic flexura (staging: T4), multiple enlarged lymph nodes in the mesocolon to the base around the superior mesenteric vein (staging: N2), no nodules/tumors were palpable on the surface of the liver (staging: M0), the uterus has the impression of a small



Picture 1. BOF/LLD on admission showed an early sign of ileus obstruction

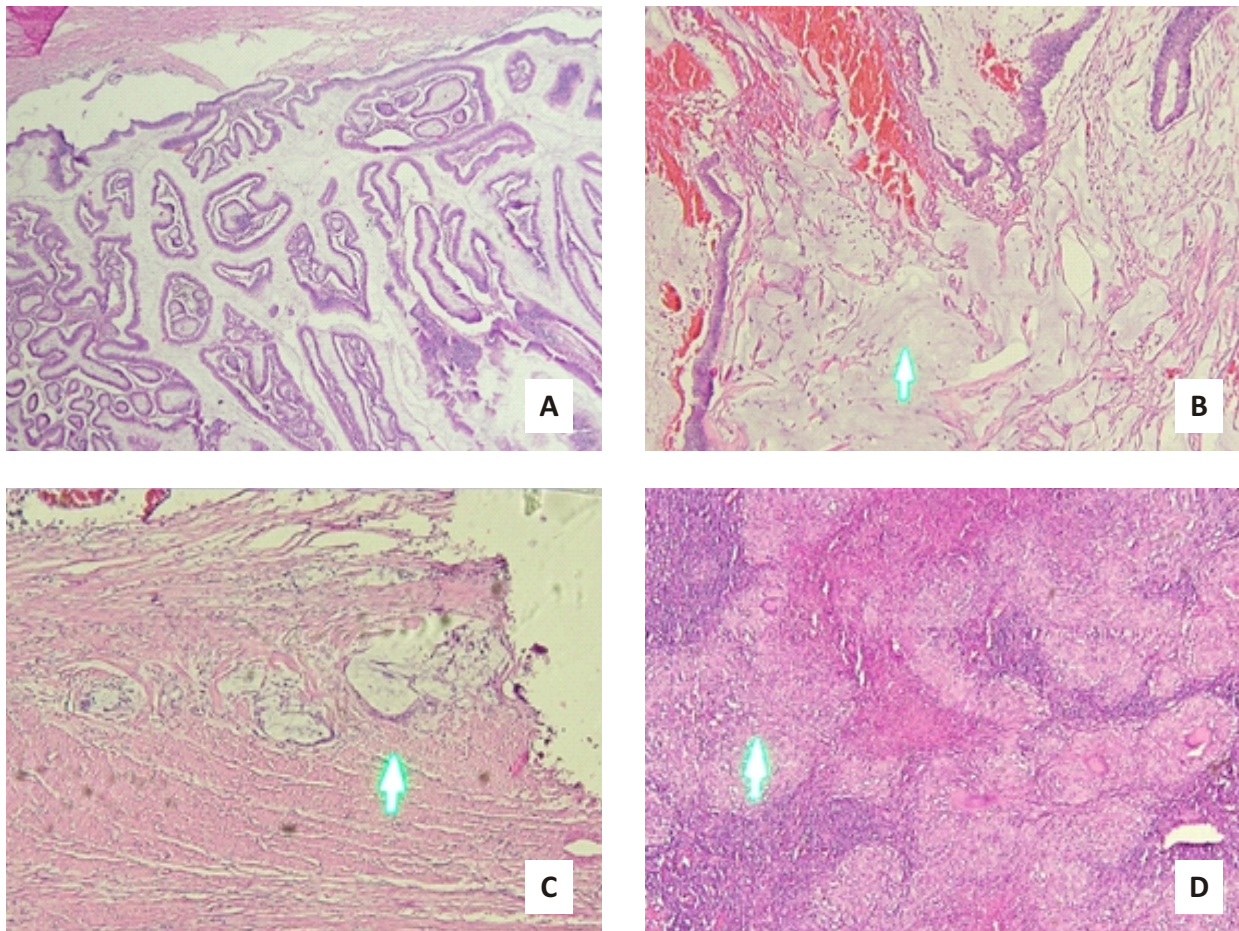


Figure 2. (A) Sections of colon tissue with tumor growth, contain proliferation of epithelial cells arranged in a glandular structure. It grows infiltratively to subserosal (pT3). (B) Tumors are partly composed of mucin components. (C) Lymphovascular space invasion (LVSI), (D) Among the areas of necrosis, groups of epithelioid-shaped histiocytes were found that formed granulomas (arrows), with a distribution of datia langerhans cells.

uterine myoma and dilated small bowel (bowel obstruction). The operation lasted 1 hour 45 minutes, the patient's post-operative status was alive. After the operation a histopathological examination of the tumor tissue was carried out.

Histopathological results showed well-differentiated adenocarcinoma in the ascending colon up to the flexura hepatica measuring (11 x 4.5 x 4) cm³, the tumor grew from the mucous layer to the serosa, and invaded the blood vessels. From the results of the post-operative histopathological examination, only 5/6 lymph nodes were found with tuberculous granulomatous lymphadenitis, the standard for achieving radicality was 12 lymph nodes. In this case, it is possible that the colon lymph node dissection was incomplete, due to the inflammatory condition around the lesion.⁴

The patient took anti-tuberculosis drugs for 9 months and chemotherapy for 12 sessions. On 30 April 2021, an ileostomy closure surgery was performed.

The patient's condition was stable when he was

discharged from the hospital. Complaints of pain from surgical wounds are reduced and surgical wounds are dry. After the ileostomy closure operation, the patient can fart and defecate, and return to activities without using a stoma bag.

DISCUSSION

Colon tuberculosis is a rare extrapulmonary tuberculosis, namely only 3–4% of cases of extrapulmonary tuberculosis. The incidence of abdominal tuberculosis accompanied by colon cancer is even rarer, and the relationship between the two is still debatable today. The simultaneous occurrence of abdominal tuberculosis with colon cancer may be just a coincidence, but there could be a link between the two diseases, abdominal tuberculosis could be a factor responsible for the incidence of colon cancer.^{5,6}

Bayle (1810) first reported abdominal tuberculosis occurring simultaneously with colon cancer which was

described as a "cavitation cancreuse" which is classified as one of six types of tuberculosis.⁷ The relationship between abdominal tuberculosis and malignancy has been widely reported in various organs of the body by several authors. Kaplan's study in 1974 revealed that only 4 (0.0006%) tuberculosis patients had neoplastic complications out of 6472 colon cancer patients.^{8,9}

According to several researchers from India, the relationship between tuberculosis and colon cancer is a coincidental, on the grounds that there are very few cases of abdominal tuberculosis co-occurring with colon cancer. This explanation may still be true in some cases where the site of malignancy or neoplasm is located far from the site of tuberculosis infection. However, this opinion can still be refuted, especially if the occurrence of these two diseases is in close proximity or even in the same place, for example in this case report, where the location of the cancer is in the ascending colon at the flexura hepatica and the location of tuberculous lymphadenitis is not far from the location of the tumor.¹⁰

Several diseases such as ulcerative colitis, Crohns disease, and schistosomiasis are considered predisposing factors for the growth of tissue malignancies. Chronic inflammation damages the intestinal mucosal lining, initiating a process of cell metaplasia and dysplasia that causes neoplastic changes. Some evidence shows that pulmonary tissue that experiences injury/scarring infection as a result of tuberculosis bacteria plays a role in initiating the growth of lung cancer, generally adenocarcinoma which originates from the peripheral parts of the lungs. Tuberculosis that occurs simultaneously with colon cancer can be argued that ulcerative lesions due to intestinal tuberculosis can be a precursor to malignancy in the colon and this possibility is supported by a research in Japan, where 17 of 26 cases of abdominal tuberculosis occurring simultaneously with colon adenocarcinoma were found to have tumors located in the ascending colon or the right side of the colon is the most frequent predilection site for abdominal tuberculosis, namely in the ileocaecal region. These findings strengthen the suspicion that colon malignancy begins with tuberculous lesions.¹¹

On the other hand, factors that interfere with host immunity are believed to be responsible for increased activation of tuberculosis infection, both exogenously and endogenously. Severe weight loss or malnutrition associated with advanced malignant disease is one of the factors that interfere with host immunity, this can support the argument that the occurrence of carcinoma can cause dormant tuberculous lesions to become active and re-infection endogenously occurs. Locally produced tumor peptides or tumor antigens can also accelerate granuloma growth and cause tuberculosis bacteria to proliferate. This argument can explain the incident in this case report, where an elderly woman who did not have a clear history of active tuberculosis, both pulmonary and

extrapulmonary, experienced colon cancer along with abdominal tuberculosis, but could have previously had latent tuberculosis but it is difficult to prove, for example no clear history of a positive Mantoux test.¹²

To date, no literature can explain clearly the relationship between the incidence of intestinal tuberculosis and colon cancer, the pathophysiological relationship between the two is still unclear and debatable. In-depth and long-term research is needed to determine whether or not there is a possibility that tuberculous lesions in the intestinal mucosa can initiate colon cancer or whether systemic lesions from advanced cancer can be an active factor in tuberculous lesions.

CONCLUSION

A case of coexistence of colon adenocarcinoma with tuberculosis in a 52 year old female patient has been reported. The diagnosis was made post-operatively. The patient's condition was improved after surgery, administration of anti-tuberculosis drugs and chemotherapy. Further research is needed to conclude whether the carcinoma was induced by tuberculosis, or whether it was a coincidence that occurred simultaneously.

Consent

Written informed consent for article publication was obtained directly from the patient's family. The approval sheet can be shown to the Editor.

Conflict of Interest

There is no conflict of interest. If this is found at a later date, the author is fully responsible for this matter.

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Ethical Clearance

Obtained from the Health Research Ethics Subcommittee of Rumkital, Dr. Ramelan Surabaya.

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