

Dilemma in the Management of Concurrent Colonic Adenocarcinoma, Pulmonary Tuberculosis and Intestinal Tuberculosis: A Case Report

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Abstract: Tuberculosis usually affect respiratory system. However, up to 5% can present with abdominal manifestation and one of the common locations is in the ileocecal region. Ileocaecal tuberculosis and caecal tumour can be masquerading each other in term of their clinical presentations, endoscopic features and the appearances in CT scan. There are many reported cases where intestinal tuberculosis was misdiagnosed for a colon carcinoma and vice versa. The final diagnosis is usually either one of these and in almost all the cases, the diagnosis was confirmed post operatively based of histopathology report of the surgical specimen. With a single diagnosis, the management will be more straightforward. Management dilemma will arise when multiple pathology ie; caecal tumour, pulmonary tuberculosis and ileocaecal tuberculosis, diagnosed simultaneously in a patient with colonic symptoms that need early treatment. A structured management plan will be needed to treat all these conditions affectively and safely. We are presenting a challenging case of a concurrent colon carcinoma, pulmonary tuberculosis and intestinal tuberculosis which were diagnose in a single setting. With the involvement of multidisciplinary team, an ideal treatment strategy was structured and patient was managed successfully with a combination of surgical and medical treatment.

Keywords: Colon Cancer, Tuberculosis (TB), Anti-TB

1. Introduction

Tuberculosis usually affects respiratory system. However, up to 5% can present with abdominal manifestation and one of the common locations is in the ileocecal region. Cecal mass with anaemia will always lead us to the provisional diagnosis of cecal adenocarcinoma. However, intestinal tuberculosis mainly the ileocecal tuberculosis (70% of intestinal TB) can also present with similar presentations [1-4]. An accurate diagnosis is essential as the management for these two conditions differs. There are many reported cases where caecal tumour and ileocaecal tuberculosis masquerading each other [5-8]. In these reported cases, the final diagnosis was either carcinoma or tuberculosis where the management was more straight forward. However, it will be more challenging if these both conditions were diagnosed endoscopically at the same setting, in a symptomatic patient who need early intervention. There is no written guideline or

protocol to treat these conditions when they are detected simultaneously. To solve the dilemma, we present a case of a colon cancer with concurrent intestinal tuberculosis in a malnourished lady who was successfully managed with medical and surgical treatment.

2. Case Report

A 59-year-old lady presented with symptomatic anaemia for a year associated with intermittent abdominal pain and loose stool for past 6 months. She has lost 15kgs in 6 months. She never had any history of gastrointestinal bleeding.

On examination, she appeared malnourished with body weight of 35kgs and a body mass index of 14kg/m². She was pale and tachycardic. No palpable cervical or inguinal lymph nodes. On abdominal examination, noted a palpable, mobile and non-tender mass at right lower quadrant. Our provisional diagnosis based on clinical finding was cecal tumor.

We proceeded with routine blood investigations. Her hemoglobin was 5mg/dL and albumin level was 21g/L. Other blood investigations namely, renal profile and liver enzymes were unremarkable. We admitted her for blood transfusion, nutrition optimisation and she was planned for an in-patient colonoscopy and CT scan. Colonoscopy showed inflamed and ulcerated mucosa at caecum, ileocaecal valve and terminal ileum together with an ulcerated long segment ascending colon mass. Multiple biopsies were taken. The colonoscopic finding added a differential diagnosis of abdominal tuberculosis.

Histopathology report from colonoscopy specimen was reviewed on day 3:

- 1) Caecum: Granulomatous necrosis with Langhan type multinucleated giant cell, slender acid bacilli seen with Ziehl Nelson stains
- 2) Ascending colon: Ulcerated and fibrotic tissue fragments infiltrated by malignant cells ie adenocarcinoma

CT scan showed an ascending colon enhancing large mass with extra luminal extension. It had no fat plane with psoas, small bowel and right gerota fascia. Caecum & ascending colon were circumferentially thickened with multiple mesenteric lymph nodes. A differential of pulmonary tuberculosis or metastatic lung nodules were considered as patient also had multiple left upper lobe lung nodules. No obvious metastasis or lesion elsewhere.



Figure 1. CT abdomen (axial and coronal view). Arrows show large extraluminal ascending colon mass with poor fat plane with psoas muscle.

Finally, we diagnosed her with concurrent ascending colon carcinoma with intestinal tuberculosis. She needed a surgery for her malignancy and anti-tuberculosis drugs for the infection. It was too risky to proceed with surgery as she was malnourished, anaemic and infectious. We had a dilemma to decide on her treatment.

To address our management dilemma, we had a multidisciplinary team discussion involving the surgical team, respiratory physician, radiologist, oncologist and anaesthetic team, to structure an ideal and safe treatment plan for her. Based on our discussion we decided to treat the infection and followed by surgery at fourth week. According to the guideline, with a 2 weeks of anti-tuberculosis drugs, a patient with achieve a non-infectious state (ie most bacteria will be eliminated) which will reduce the risk for spread of the disease and make the general anesthesia safer for the operating team.

The interval of 4 weeks was utilized to optimize her nutritional status with oral nutritional supplement and increase her hemoglobin level with intravenous iron dextran. The planned surgery for her was right hemicolectomy with double barrel stoma. Primary anastomosis was avoided as her diseased bowel has higher risk for anastomotic leak. Any post operative complication might interrupt in her further management for tuberculosis and carcinoma. After 4 weeks, we proceeded with the planned surgery. It was uneventful and she was discharged on day 5 post surgery. Her TB medication was continued.

She was seen in our outpatient clinic 3 weeks post-surgery. She appeared well, her anemia resolved and her weight improved. Final Histopathology report showed stage II adenocarcinoma (T3N0M0). There was a poorly differentiated adenocarcinoma with lymphovascular invasion at the ascending colon and moderately differentiated adenocarcinoma with no lymphovascular invasion at the caecum. Granuloma was seen at the ileocaecal valve but no tuberculosis detected in the gross specimen. She was finally started on systemic chemotherapy at the 10th week of tuberculosis treatment and completed 6 cycle CAPOX (capecitabine plus oxaliplatin). She was reviewed in outpatient clinic 6 months later and planned for closure of stoma.

3. Discussion

Colorectal cancer is the 2nd most common cancer in Malaysia [9], whereas for tuberculosis, Malaysia has a medium burden with reporting rate of less than 100/100000 population [10]. National guidelines are available for both conditions as they are recognised as significant health issues in Malaysia.

Based on the guideline, treatment for resectable, non-metastatic colon cancer is curative surgery. Types of resections are based on the location of the tumour. Complete removal of the tumour with adequate margin and primary anastomosis of the colon can be achieved in almost all non-complicated (ie: non obstructed or perforated) colon cancer cases. However, in our case, a right sided colon cancer was diagnosed on the background of intestinal tuberculosis which

made the decision for surgery to be difficult as we are dealing with an unhealthy bowel and an infectious disease. In such a situation, treatment should be catered to treat both conditions effectively by understanding the pathophysiology of both diseases and the pharmacology effects of the drugs used for the treatment.

Intestinal tuberculosis is usually treated with anti-TB drugs for 6 months and can be extended up to 12 months in selected cases [11-13]. Upon completion of first two weeks of treatment, patient will be non-infectious as most of the bacteria has been destroyed by the effect of the antibiotics [14]. Hence, risk for transmission of this communicable disease is lesser. On completion of the first 2 months of anti-TB ie the intensive phase of the treatment, patient is considered cured and the subsequent 4 to 7 months of treatment is to avoid drug resistant.

Based on the understanding of the effect of TB treatment, we had confidence that it is safe for the patient and the treating doctor to proceed with surgery under general anaesthesia any time after 2 weeks of the commencement of TB treatment.

Right hemicolectomy with double barrel stoma was done in this case as the risk of anastomotic leak is high in malnourished and immunocompromised patients. Furthermore, any intraoperative and post operative complication may interrupt her further management as completion of TB treatment is one of our priorities here.

Commencement of immunosuppressive drugs in immunocompromised patients with infectious disease will give a detrimental effect without proper planning. The question on safety of commencing chemotherapy drug on tuberculosis patient was also addressed in our case as we know that immunosuppressive drugs can lead to flare of any form of infection. Based on studies, it is safe to start on adjuvant chemotherapy once a patient has completed the intensive phase of TB treatment as the active infection is considered cured after this period [14]. In term of drug toxicity, based on published evidence, it is safe for both groups of drugs ie chemotherapy and TB drugs to be given together [15]. In our case, patient's general condition and nutritional status improved after the commencement of TB treatment and resection of the colon carcinoma.

4. Conclusion

In conclusion, an understanding of the pathophysiology of tuberculosis and colon carcinoma is important to outline a safe and effective management strategy. Hence, the involvement of a multidisciplinary team is essential. Never the less, the safety of the doctors also needs to be considered when handling patients with an infectious disease.

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