



Conservative management of tubercular intestinal obstruction with antitubercular drugs and steroid

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Abstract

Objective: Tubercular intestinal obstruction is a challenging condition often necessitating surgical intervention. This case study aims to evaluate the effectiveness of conservative management, including antitubercular therapy, short-course steroids, and dietary modifications, in resolving acute and complete intestinal obstruction caused by tuberculosis.

Case Description: A 17-year-old malnourished male presented with acute abdominal pain, vomiting, and constipation. Imaging revealed mid-ileal intestinal obstruction due to tuberculosis. Conservative management, involving intravenous antibiotics, nasogastric decompression, steroids, and antitubercular treatment, led to gradual resolution. The patient experienced recurrent partial obstruction episodes, each managed conservatively with antibiotics, steroids, and dietary adjustments. A slow transition from liquid to solid diet accompanied recovery. After a year of treatment, the patient achieved recovery with weight gain.

Conclusion: Tubercular intestinal obstruction, challenging to treat medically, often requires surgery. However, this case demonstrates the successful outcome through a comprehensive conservative approach. The inclusion of steroids alongside antitubercular treatment played a crucial role. Additionally, a cautious transition from liquid to solid diet post-resolution proved effective in preventing recurrence. Conservative management, when tailored to the patient's nutritional needs and disease course, can lead to favorable outcomes in tubercular intestinal obstruction.

Introduction

Tubercular Intestinal obstruction usually do not respond to conservative treatment and often requires surgical intervention. Surgical intervention may result in increased morbidity and mortality because of multiple factors including

poor nutritional status, sepsis, hemodynamic instability etc. Steroids are often used in treatment of tubercular intestinal obstruction with successful outcome. This case report describes conservative management of a 17-year-old male patient presented with acute and complete intestinal

obstruction caused by tuberculosis. This patient was treated antitubercular treatment and steroids. He responded to conservative treatment resulting in complete recovery. This case highlights the successful resolution of intestinal obstruction in abdominal tuberculosis with conservative management, including antitubercular therapy, short-course steroids and dietary modifications.

Case Report

17 years Old Male, with on and off abdominal pain since 1 month with decreased appetite and weight loss since 1 month. He was investigated in private with Mantoux test which was strongly positive. He then presented with complains of acute onset severe abdominal pain since 1 day with vomiting and constipation, On Examination – He was afebrile, Pulse -104/min, BP -110/70 mm of Hg, Spo2-98% on room air. He was having sunken eyes and dry skin suggestive of dehydrated state. His weight was 35 kg. On examination, abdomen was grossly distended with epigastric tenderness present. X ray abdomen showed multiple air fluid level, predominantly jejunal loops were dilated. CT scan of abdomen and pelvis was done with oral and IV contrast - Oral contrast was seen in stomach and proximal Jejunum – The contrast could not go beyond jejunum on delayed film. Proximal Jejunal loops were dilated. Distal ileal loops were collapsed. It was suggestive of mid ileal intestinal obstruction. Mesenteric enlarged lymph nodes with calcification was seen. CT scan of chest showed multiple paratracheal, subcarinal and bilateral hilar lymph nodes and subsegmental consolidation in left lower lobe.

He was managed conservatively; He was kept Nil by mouth, Ryle's Tube and foley's catheter was inserted to monitor urine output. He was given IV fluid and his urine output was monitored to check for adequate hydration and normal urine output. He was given Inj. Hydrocortisone 100 mg Once daily. He was given Inj. Ceftriaxone 1 gm BD and Inj. Metronidazole 100 ml TDS. On day 2,

intestinal obstruction still persisted - Ryle's Tube aspirate of 500 ml, he was still not passing flatus or stool. He was started on Parenteral nutrition through central venous catheter. On day 3, he started passing stools. His abdominal distention subsided. Ryle's Tube aspirate reduced to 50 ml/day. Hence Ryle's Tube and foley's catheter was removed and he was started on liquids orally. He was started on weight adjusted dose of Antitubercular treatment and tapering dose of oral prednisolone from 30 mg per day. He was given only liquid diet for 2 days and on day 5 he was advised to take semisolid diet with no solid food intake. He was then discharged.

He presented again after 15 days with complains of central abdominal pain and one episode of vomiting. He gave history of solid food consumption. His X ray abdomen showed few air fluid levels in upper abdomen. He was again diagnosed with partial intestinal obstruction. He was admitted and started on IV antibiotic, IV fluid support and Inj. Hydrocortisone 100 mg once daily. Ryle's tube was inserted. There was no significant Ryle's tube output. His symptoms subsided in 3 days. He was again started on liquid diet and then semisolid diet. He was discharged after 4 days with instruction to continue tapering dose of oral steroid, antitubercular treatment, take semisolid food and avoid solid food.

He presented again after 1 month of second admission with complains of diffuse abdominal pain but no vomiting and he was passing flatus and stool. He was started on Inj. Hydrocortisone and IV antibiotic. His pain in abdomen settled and he was discharged after 4 days. His antitubercular treatment was continued. By this time the oral steroid medication was stopped after tapering it slowly. He was given semisolid food for 1 month and then solid food was introduced gradually. He was given 3 months of intensive phase 4 drug antitubercular treatment. He was then given 9 months of continuation phase of antitubercular treatment with Rifampicin, Isoniazid and Ethambutol. His antitubercular treatment was

stopped after 1 year. His weight increased from initial weight of 35 kg to 38 kg in 2 months of treatment. His anti-tubercular drug was stopped after a period of one year. Currently He remains asymptomatic and healthy after total follow up of two years and his weight has increased to 46 kg.

Discussion

Tuberculosis is one of the top infectious disease and it is 13th leading cause of death worldwide. India is home to largest number of tuberculosis cases world over and abdominal tuberculosis forms one of the most common presentation of tuberculosis.⁽¹⁾ In one of the studies it was observed that drug resistance in abdominal tuberculosis cases was 6.4%.⁽²⁾ India has set an optimistic goal of tuberculosis elimination in year 2025. India aims to significantly reduce morbidity and mortality related to tuberculosis.

Intestinal Tuberculosis is a slow progressive disease. It often presents as intestinal obstruction. At the time of presentation patient has developed significant weight loss and cachexia because of chronic nature of disease. In view of poor nutritional status and other complex physiological changes occurring because of intestinal obstruction, any surgical intervention will inadvertently result in significant morbidity and mortality. Nonoperative treatment which can bring in resolution of intestinal obstruction is preferred choice as compared to operative treatment.

In this case report we present a young patient who was significantly malnourished, cachexic and presented with acute and complete intestinal obstruction. His Mantoux test was positive, CT chest showed multiple mediastinal, hilar and subcarinal lymph adenopathy along with consolidation in left lower lobe. CT abdomen showed multiple enlarged lymph nodes with intestinal obstruction. He was started on antitubercular treatment based on above finding suggestive of tuberculosis. He was given treatment with intravenous antibiotic, nasogastric tube decompression and intravenous steroids

along with antitubercular therapy. This brought in resolution of intestinal obstruction. He later on presented again two time with picture of partial intestinal obstruction. On both occasions he was treated conservatively with antibiotic, nasogastric decompression and steroids. After resolution of symptomatic intestinal obstruction, he was started on semisolid diet, overcooked and soft food. All hard substances which may lead to obstruction such as raw fruits, vegetable, dry fruits were strictly avoided. After 2 months of semisolid diet, solid food was introduced slowly. Once he tolerated solid food he was then shifted to normal diet with fruits and raw vegetables. He gained 9 kg of weight over a period of 1 year and currently completely free of all symptoms.

Stricture of intestine caused by tuberculosis is notorious for nonhealing. One study showed that only 25% of patients with tubercular intestinal obstruction responded to conservative treatment.⁽³⁾ One metaanalysis showed, Steroid along with antitubercular therapy was found to be useful in treatment of intestinal tuberculosis. Steroid treated patients had significantly lower possibility of requiring surgery for intestinal obstruction and lower number of patients had symptomatic stricture of intestine.⁽⁴⁾ Steroids reduce inflammatory response of our body which results in improved outcome in a case of tubercular intestinal obstruction⁽⁵⁾

In one comparative study of patients with peritoneal tuberculosis, it was found that, patients treated with steroids had significantly lesser complains of pain in abdomen, lesser admission for intestinal obstruction and lesser mortality related to intestinal obstruction. The author advocated for use of steroids in cases of peritoneal tuberculosis and suggested that it may lead to reduced complication and morbidity.⁽⁶⁾

There are newer insights in the mechanism by which corticosteroid may benefit in a patient of tuberculosis. In one of the experimental models, it was found that corticosteroid abrogated the cell death caused by mycobacterium tuberculosis. It

has been found to have protective effect on decreasing cell death, which is achieved by facilitating mitogen-activated protein kinase phosphatase 1 -dependent dephosphorylation of p38 mitogen-activated protein kinase.⁽⁷⁾ Reducing the number of cell death is likely to be main mechanism in beneficial effect in treatment of tubercular meningitis and tubercular pericarditis. Similar mechanism may help in peritoneal tuberculosis. Decreased cell death of intestinal endothelium and muscular propria will result in decreased formation of stricture. Number of studies have shown resolution of intestinal obstruction and decreased requirement of operative intervention for intestinal obstruction in patients treated with corticosteroids.⁽⁶⁾ Uba devi et. al. in their review on abdominal tuberculosis suggested that antitubercular treatment can be started on basis of abdominal radiological finding suggestive of tuberculosis.⁽⁸⁾ In a study of patients with abdominal tuberculosis, out of total of 141 patients presenting with a clinical and/or radiological picture of abdominal tuberculosis 34 patients had confirmed diagnosis, remaining 107 patients were treated empirically and they had probable diagnosis of abdominal tuberculosis.⁽⁹⁾ many times abdominal tuberculosis is associated with pulmonary tuberculosis as seen in our case. It was found that approximately 15 – 20% of abdominal tuberculosis cases are associated with pulmonary tuberculosis.⁽¹⁰⁾

India 2.8% of new cases of tuberculosis are having MDR or Rifampicin resistant tuberculosis. In view of rising number of cases of drug resistant tuberculosis it is necessary to obtain bacteriological diagnosis and test for tuberculosis and culture sensitivity in each and every case of newly diagnosed tuberculosis. However, in our case patient had presented in critical condition with cachexia caused by chronic disease and intestinal obstruction further adding to already compromised nutritional status. Any surgical intervention in this, there was increased chances of morbidity and mortality. In view of same

conservative medical management was adopted in this case. It has resulted in very good outcome.

Conclusion

Tubercular intestinal obstruction is difficult to treat with medical management and often require surgical intervention. Use of steroid along with antitubercular treatment may help in avoiding surgery in case of tubercular intestinal obstruction. Introduction of solid diet immediately after resolution of symptoms and during recovery period may result in recurrence of intestinal obstruction. It may help if there is slow transition of diet from liquid to semisolid and then to solid diet in resolution of symptomatic intestinal obstruction.

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