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Tuberculosis of Intestine

Muhammad Iqbal Khan,[1]* Muhammad Shumraiz Ali,[1] Imran Khan,[1] Mazhar Iqbal,[1] Sughra Parveen,[1] Shah Hassan Shah[1]

ABSTRACT

Objective — *To determine the clinical spectrum and surgical outcome of gastro-intestinal tuberculosis.*

Study design — *Descriptive case series.*

Place & Duration of study — *Department of General surgery ward 3 Jinnah Postgraduate Medical Center (JPMC) Karachi, from June 2010 - July 2015.*

Methodology — *All patients who were diagnosed as cases of gastrointestinal tuberculosis and underwent operative procedures were included. Data was collected on a structured proforma. The variables collected included age of the patients, gender, clinical presentation, surgical procedures performed and outcome.*

Results — *A total of 100 patients were managed. There were 67 female and 33 male patients. Female to male ratio was 2:1. The minimum age was 13 year and maximum 50 year with the mean age of 32 year. Apart from the constitutional symptoms like nausea, vomiting and low grade fever, abdominal pain was the commonest presentation. Eighty-eight patients were operated. End ileostomy, limited right hemicolectomy and resection anastomosis with primary repair were the commonly performed procedures. Two patients developed entero-cutaneous fistulae. Five patients presented with septic shock and died.*

Conclusions — Intestinal TB had varied presentation. It was found more frequently in females. Fever and weight loss were common presentations. High index of suspicion must be exercised in making a diagnosis.

Key words — *Abdominal tuberculosis, Intestinal tuberculosis, Ileostomy.*

INTRODUCTION:

The WHO global report 2015 showed that tuberculosis (TB) affected 9.6 million people in 2014, out of which 1.5 million died. More than 50% patients belonged to South-East Asia and Western Pacific regions.[1]

Tuberculosis affect almost all organs of the body. Extra pulmonary TB accounts for 10-15% of annual burden of the disease of which abdominal tuberculosis is a major contributor [2] Ileo-cecal region is most common part of the gut involved.[3] In 15-25% cases of abdominal TB lungs are also affected.[4] Intestinal tuberculosis is of three main types; ulcerative, hypertrophic or ulcero-hypertrophic, and fibrous stricture forming.[5] The disease can mimic various GI disorders, particularly the inflammatory bowel disease, colonic malignancy, or other GI infections.[6,7] Most patients present late with complications like sub-acute and acute intestinal obstruction and sometimes due to stricture formation or with a mass. This study was conducted to find out the clinical presentation, and outcome of operation in patients with gastrointestinal TB.

METHODOLOGY:

This was a descriptive case series conducted at Surgical Unit 3, Jinnah Postgraduate Medical Center Karachi from June 2010 to July 2015. All patients with the diagnosis of gastrointestinal tuberculosis

[1] Department of Surgery, Jinnah Postgraduate Medical Centre, Karachi.

Correspondence:
Dr. Muhammad Iqbal Khan[1]*
Department of Surgery Ward 3, JPMC
Jinnah Sindh Medical University
Rafiqui Shaheed Road Karachi
E mail: iqblkhan@hotmail.com

were enrolled. These patients presented either in emergency or admitted through outpatient department, and also referred from medical units for surgical management with the signs and symptoms of intestinal obstruction or peritonitis. Final diagnosis of TB was made by tissue biopsy. Routine investigations performed in all the cases included complete blood count, ESR, chest and abdominal x-rays and abdominal ultrasound.

All patients were assessed for the need of operative procedures. Laparotomy was performed where indicated and procedure tailored according to the operative findings. Anti tuberculous (ATT) drugs were also added to the treatment. Data was entered into a proforma and analyzed with descriptive statistics in numbers and percentages.

RESULTS:

A total of 100 cases were managed. Out of this 88 cases underwent surgical procedure. Sixty-nine patients presented in surgical emergency with acute or sub-acute intestinal obstruction or peritonitis. Fourteen patients were diagnosed cases of gastro-intestinal tuberculosis and were already on ATT and referred for surgical opinion and management of acute intestinal obstruction from medical units. Seventeen patients presented to surgical outpatient department. The age of all the patients ranged from 13 year to 50 year with mean age of 32 year. Majority (46%) of the patients were from 21 year to 30 year. Majority (67%) of the patients were female and 33% males.

Duration of symptoms were from few hours to more than six months. Twenty-five patients had a positive family history of tuberculosis. Seventeen patients had concomitant pulmonary tuberculosis out of which 12 patients were already diagnosed cases of pulmonary tuberculosis and were on anti-tuberculosis therapy for more than three months. All of the patients in this study were from poor socio-economic class. Twelve cases were managed conservatively. The condition of all those patients improved after starting ATT.

Abdominal pain was the most common symptom present in 94 patients. In 52 patients it was in the right lower quadrant (table I). Seventy-eight patients presented to emergency department with dehydration and 26 patients were in the shock like condition. On abdominal examination visible peristalsis were noticed in 12 cases and tenderness in 86 patients. It was more marked in the right lower abdomen. Abdominal mass was palpable in eleven patients.

Surgical procedure was performed in 88 patients. At exploratory laparotomy in nine patients extensively matted and plastered gut loops were found and twenty-two cases had multiple strictures in ileum and jejunum. In ten cases strictures were noted in both small and large Intestine. Nineteen patients had a mass at ileo-cecal junction. In twenty cases perforation proximal to the strictures in the terminal ileum was found. In sixteen cases it was single and in four cases it was multiple. In all the nine cases where extensive gut was involved jejunum was exteriorized. In 51 cases ileostomy was made. In four cases resection and anastomosis with primary repair was done and primary repair alone was performed in seven cases. In 19 patients with mass at ileo-caecal junction limited right hemi-colectomy was done with end ileostomy performed in ten and primary repair done in nine cases.

In postoperative period two patients developed entero-cutaneous fistulae, 16 developed skin excoriations, three had ileostomy prolapse and in two ileostomy got retracted. Twelve patients who presented with vague abdominal pain without sign and symptoms of peritonitis and intestinal obstruction were managed conservatively. Five cases presented in septic shock and died.

Table I: Symptoms

Symptoms	No. of Patients
Constitutional	
Fever	63
Weight Loss	90
Anorexia	42
Night Sweats	37
Abdominal	
Abdominal Distension	57
Abdominal Pain	94
Nausea and Vomiting	68
Constipation	38
Diarrhea	14
Alternating bowel habits	20

DISCUSSION:

The risk of developing tuberculosis after being infected with the bacteria is reported to be 30%.[8] Intestine is the sixth most frequent site for extra-pulmonary tuberculosis.[9] In our study the disease was most commonly found in the third decade corresponding to other similar studies. Female dominance as found in current study is also reported by others.[10]

Intestinal tuberculosis has varied clinical presentation from vague abdominal pain to abdominal mass, acute intestinal obstruction, and gut perforation.[11] Similar pattern was observed in our study. Constitutional symptoms were noted in majority of the patients and helped in suspecting the condition. Diagnosis of Intestinal tuberculosis is mainly dependent upon histopathology though other investigations like raised ESR can support the presence of tuberculosis clinically.[12]

Fluid resuscitation and other supportive measures are the mainstay of the treatment. In this study after correction of fluid deficit and electrolyte imbalance exploratory laparotomy was performed. Initial stabilization of the patient is of prime importance. In this study 88 patients were operated who were in either obstruction or had peritonitis. Surgical procedure was tailored according to the pathological finding at operation as reported in literature where ileostomy was most commonly performed.[13] Same was done in this study. It is therefore important that surgeons must be well versed with various surgical options for patients with intestinal tuberculosis. Antituberculous treatment must be continued with surgical procedure.[14]

CONCLUSIONS:

Treatment of intestinal TB is challenging due to varied presentation. High index of suspicion must be exercised in making a diagnosis. Definitive surgical procedure varied according to the operative findings. Mortality in this series was 5%.

REFERENCES:

1. World Health Organization. Global Tuberculosis Report 2015, 20th Edition. [Internet] available from URL http://www.who.int/tb/publications/global_report/en accessed on 2015.

2. Yaghoobi R, Khazanee A, Bagherani N, Tajalli M. Gastrointestinal tuberculosis with anal and peri-anal involvement misdiagnosed as Crohn's Disease For 15 Years. Acta Derm Venereol. 2010:91;348-9.

3. Abro A, Siddiqui FG, Akhtar S, Memon AS.. Spectrum of clinical presentation and surgical management of intestinal tuberculosis at tertiary care hospital. J Ayub Med Coll Abbottabad 2010;22:96-9.

4. Ahmad S, El-Muttaqui A, Aurangzaib, Mehmood T. Abdominal tuberculosis: presentation, post-operative complications and management. Pak J Surg, 2010;26:2-6.

5. Khan S, Khan K, Khan M. Presentation of abdominal tuberculosis in NWFP and its correlation with operative findings. J Postgrad Med Ins. 2005;19:286-91.

6. Larsson G, Shenoy T, Ramasubramanian R, Balakumaran LK, Småstuen MC, Bjune GA, et al. Routine diagnosis of intestinal tuberculosis and Crohn's disease in Southern India. World J Gastroenterol. 2014;20:5017-24.

7. Pulimood AB, Amarapurkar DN, Ghoshal U, Phillip M, Pai CG, Reddy DN, et al. Differentiation of Crohn's disease from intestinal tuberculosis in India in 2010. World J Gastroenterol. 2011;17: 433-43.

8. Yamane T, Umeda A, Shimao H. Analysis of recent cases of Intestinal Tuberculosis in Japan. Intern Med. 2014;53:957-62.

9. Mohan NK, Ramesh D, Reddy KG. A study on various modes of presentation of gastrointestinal tuberculosis at emergency, its management and outcomes. J Evid Based Med Healthc. 2016;3: 537-47.

10. Sharma D, Gupta A, Jain Bk Agrawal V, Dargan P, Upreti L, et al. Tuberculous gastric perforation: report of a case. Surg Today. 2004;34:537-41.

11. Chen CH, Chou KC, Tsao LC. Intestinal ileus and pneumatosis intestinalis as the major manifestation of tuberculous peritonitis: A diagnostic challenge. Adv Digestive Med. 2016;1-5.

12. Barbagallo F, Latteri S, Sofia M, Ricotta A, Castello G, Chisari A, et al. Appendicular tuberculosis: The resurgence of an old disease with difficult diagnosis. World J Gastroenterol. 2010;16:518-21.

13. Shaikh R, Ayub M, Malik KA, Jaleel M. Abdominal tuberculosis - Profile of 26 cases. Pak J Surg. 2008;24:217-9.

14. Masood I, Majid Z, Rafiq A, Rind W, Zia A, et al. Multiple pan-enteric perforations secondary to intestinal tuberculosis. Case Rep Surg. 2015; 2015:318678

Author's Contributions:
Muhammad Iqbal Khan: Conception of idea, Data collection and manuscript writing.
Muhammad Shumraiz Ali: Data collection and manuscript writing.
Imran Khan: Data collection and interpretation, manuscript writing.
Mazhar Iqbal: Manuscript writing.
Sughra Parveen: Data collection and manuscript writing.
Shah Hussan Shah: Manuscript writing.

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