ORIGINAL ARTICLE

PRESENTATION AND OUTCOME OF GASTRO-INTESTINAL TUBERCULOSIS IN DHQ TEACHING HOSPITAL, DIKHAN, PAKISTAN

Akhtar Munir, Wasim Ahmad, Dastageer Waheed
Department of surgery, Gomal Medical College, Dera Ismail Khan, Pakistan

ABSTRACT

Background: Intestinal TB is the sixth most frequent site for extra pulmonary tuberculosis. The objective of the study was to determine the presentation and outcome of gastro-intestinal tuberculosis

Material & Methods: This was a descriptive cross-sectional study conducted in the department of General surgery, Gomal Medical College, DIKhan from January 2016 to January 2017. All admitted patients with gastrointestinal tuberculosis were included in the study. Sample size was 71 cases selected through consecutive sampling technique. Demographic variables were gender, age and socio economic status. Research variables were source of patients, weight of the patients, presence of acute/ sub-acute intestinal obstruction / or peritonitis, mode of treatment, presence of family history, presence of concomitant pulmonary tuberculosis and final outcome of the patients. All variables being categorical except age were analyzed descriptively into count and percentages using SPSS Version 16 whereas mean and range were calculated regarding age.

Results: The age of the patients ranged from 13 year to 68 year with mean of 27.3 years. Out of a total of 71 cases, 43.7% males and 56.3% were female with male to female ratio of 1:1.2. All of the patients in this study were from poor socio-economic class. Ninty three pecent cases underwent surgical procedure. Seventy three percent of the patients were under-weight while 25.1% were of normal weight. Eleven cases were managed conservatively. Outcome was good in 80% patients, while 20% patients had poor prognosis.

Conclusion: Early diagnosis, and timely intervention and starting Anti Tuberculous Therapy (ATT) play a significant role in the final outcome of gastro-intestinal tuberculosis.

KEY WORDS: Abdomen; Tuberculosis; Intestines; Ileostomy.

This article may be cited as: Munir A, Ahmad W, Waheed D. Presentation and outcome of gastro-intestinal tuberculosis in DHQ teaching hospital, DIKhan, Pakistan. Gomal J Med Sci 2017;15:173-5.

INTRODUCTION

Tuberculosis is a worldwide health problem with about one third of the word population being infected with abdominal TB.[1] 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.[2] Pakistan ranks fifth amongst high burden TB countries in the world and accounts for 61% of the TB burden in the WHO Eastern Mediterranean region.[3] Twenty two high weight nations represent 80% of aggregate worldwide TB which incorporates Pakistan.[2,3]

Corresponding Author:
Dr. Akhtar Munir
Associate professor surgery
Gomal Medical College
Dera Ismail Khan
E-mail: surgakhtarmunir@yahoo.com
Date Submitted: 16-10-2017
Date Revised: 23-11-2017
Date Accepted: 14-12-2017

Mycobacterium tuberculosis is acquired through the aerosol route and most commonly affects the lungs.[4] Pulmonary TB infection is seen in around 52% of all TB cases, although extra-pulmonary disease is usually independent of pulmonary TB and they co-exist in around 36% .Abdominal TB includes the infection of gastrointestinal tract, peritoneum, mesentery, abdominal lymph nodes, liver spleen and pancreas. Intestinal TB spreads through the lymphatics, blood, ingestion of infected sputum or infected milk products or direct spread from adjacent organ and fallopian tubes in females.[5,6] Abdominal TB is believed to account for 4.9% of TB cases and can prove to be a diagnostic challenge, as it can present with vague and non-specific symptoms and mimic other more common intra-abdominal pathologies.[7] Upper gastrointestinal tract involvement is rare and is usually an unexpected histological finding in an endoscopic or laparotomy specimen.[7-9] Early diagnosis is important as the infection can be treated with standard anti tuberculosis therapy. If surgery is necessary for complications such as obstruction and perforation it carries a mortality increasing from

2% for elective procedures to 20% for emergency operation.[9-11] In addition to non-specific symptoms such as malaise and anorexia, the major presenting features are abdominal pain (100%), altered bowel habit (67%) and a palpable mass. Radiological evidence of pulmonary disease is less than 10% of all patients who have intestinal tuberculosis, so a normal chest radiograph does not exclude the diagnosis and often abdominal tuberculosis exists in the absence of respiratory tuberculosis.[12,13] For investigations, barium enemas and abdominal CT scans can be abnormal but are not diagnostic. If ascites is present fluid examination and culture can yield positive result. GENE EXPERT has been evolving as a diagnostic tool with good accuracy in detecting early TB and also diagnose MDR TB. GENE EXPERT test is endorsed since 2010 by WHO for diagnosing TB. It detect TB in 2hours with accuracy equalant to culture.[14] Despite the availability of these investigations, the primary intestinal tuberculosis is still not detected until laparotomy is done, therefore a high index of clinical suspicion is often needed and is directly affecting the outcome of the disease.[6,15,16] The objective of the study was to determine the presentation and outcome of gastro-intestinal tuberculosis

MATERIAL AND METHODS

This was a descriptive cross-sectional study conducted in the department of General surgery, DHQ teaching hospital, Gomal Medical College, Dera Ismail Khan from January 2016 to January 2017. All admitted patients with the diagnosis of gastrointestinal tuberculosis or having complications were included in the study. These patients presented either in emergency or admitted through outpatient Department, and also referred from medical and gastroenterology units for surgical management with the signs and symptoms of intestinal obstruction or peritonitis. Sample size was 71 cases selected through consecutive sampling technique. Demographic variables were gender, age and socio economic status (poor, rich). Research variables were source of patients (A&E department, Medical department), weight of the patients (underweight, normal and overweight), presence of acute/ sub-acute intestinal obstruction / or peritonitis (yes, no), mode of treatment (conservative, surgery), presence of family history, presence of concomitant pulmonary tuberculosis (yes, no) and final outcome of the patients (good, poor). 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.ascitic fluid examination if present. All patients were assessed for the need of operative procedures. Laparotomy was performed where indicated and procedure tailored according to the operative findings. Anti-tuberculosis (ATT) drugs were also added to the treatment. Data was collected on a predetermined proforma. All variables being categorical except age were analyzed descriptively into count and percentages using SPSS Version 16 whereas mean and range were calculated regarding age.

RESULTS

The age of the patients ranged from 13 year to 68 year with mean of 27.3 years. Out of a total of 71 cases, 31 (43.7%) males and 40 (56.3%) were female with male to female ratio of 1:1.2. All of the patients in this study were from poor socio-economic class. Fifty one patients were admitted to surgical unit via A&E department with acute or sub-acute intestinal obstruction or peritonitis whereas 20 patients were referred for surgical opinion and management of acute intestinal obstruction from medical unit. 71 cases, 66 (93%) cases underwent surgical procedure and 5 were treated conservatively. 73.2% of the patients were under weight, 25.1% were of normal weight while 1% was overweight. Twenty patients had a positive family history of tuberculosis. Seven patients had concomitant pulmonary tuberculosis. 11 cases were managed conservatively. Outcome was good in 80% patients, while 20% patients had poor prognosis.

The condition of all those patients improved after starting ATT.

DISCUSSION

Intestinal TB is the sixth most frequent site for extra pulmonary tuberculosis. It constitutes 24.85% of the extrapulmonary tuberculosis.[13] In our study the disease population was most commonly found in their second decade which corresponds to other similar studies like Awasthi et al.[13] The study reported female dominance among intestinal tuberculosis patients as similar to Khan et al.[3] Intestinal tuberculosis usually has a varying presentation from vague abdominal pain to abdominal mass so diagnosis has always been a challenge before investigations, acute intestinal obstruction, sub-acute obstructions and gut perforation.[15] Similar pattern was observed in our study as well. Almost all the study group belonged from poor socio-economic status which is a major risk factor of tuberculosis.[16] Majority of the patients presented with the complications in our study as compared to other studies in south-asian populatin.[17] Twenty patients had a positive family history of tuberculosis. Seven patients had concomitant tuberculosis out of which 2 patients were already diagnosed cases of pulmonary tuberculosis and were on anti-tuberculosis therapy for more than three months which revealed that in abdominal tuberculosis jejunum, ileum and ileocecal junction can be concomitant.[18] After correction of fluid deficit and electrolyte imbalance exploratory laparotomy was performed in most of the patients, followed by anti-tuberculous therapy as stabilization of the patient being the prime importance.[19] In this study 66 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 procedure.[20] 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 for a period of 12 months. Outcome in abdominal tuberculosis is directly affected by disease presentation, management plan, time and type of surgery performed.[21] Mortality in this series was 5%.

CONCLUSIONS

Early diagnosis, and timely intervention and starting ATT play a significant role in the final outcome of gastro-intestinal tuberculosis.

REFERENCES

1. Yaghoobi R, Khazanee A, Bagherani N, Tajalli M. Gastrointestinal tuberculosis with anal and perianal involvement misdiagnosed as Crohn's disease for 15 years. Acta dermato-venereologica. 2011;91:348-9.
2. Anderson L, Tamne S, Watson J, Cohen T, Mitnick C, Brown T, et al. Treatment outcome of multi-drug resistant tuberculosis in the United Kingdom: retrospective-prospective cohort study from 2004 to 2007. Euro Surveill. 2013;18:1028-35.
3. Khan MI, Ali MS, Khan I, Iqbal M, Parveen S, Shah SH. Tuberculosis of Intestine. Journal of Surgery Pakistan (International). 2016;21:2.
4. Ahmed S, Muttaqi A, Aurangzeb M, Khan T. Abdominal Tuberculosis: Presentation, Post Operative Complications & Management. Pak J Surg. 2010;26:2-6.
5. Huang X, Liao W-D, Yu C, Tu Y, Pan X-L, Chen Y-X, et al. Differences in clinical features of Crohn's disease and intestinal tuberculosis. World Journal of Gastroenterology: WJG. 2015;21:3650.
6. Afridi SP, Siddiqui RA, Rajput A, Alam SN. Spectrum of abdominal-tuberculosis in emergency surgery: 100 cases at a tertiary care Centre Dow University of Health Sciences and Civil Hospital Karachi, Pakistan. Stoma. 2016;34:34.
7. Larsson G, Shenoy KT, Ramasubramanian R, Thayumanavan L, Balakumaran LK, Bjune GA, et al. High faecal calprotectin levels in intestinal tuberculosis are associated with granulomas in intestinal biopsies. Infectious Diseases. 2015;47:137-43.
8. Yamane T, Umeda A, Shimao H. Analysis of recent cases of intestinal tuberculosis in Japan. Internal Medicine. 2014;53:957-62.
9. Azhar I, Iqbal S, Ahmad T. Clinical patterns of tuberculosis in children. Annals of King Edward Medical University. 2017;8:68-70.
10. Masood I, Majid Z, Rafiq A, Rind W, Zia A, Raza S. Multiple, Pan-Enteric Perforation Secondary to Intestinal Tuberculosis. Case reports in surgery. 2015;2015.
11. Chandir S, Hussain H, Salahuddin N, Amir M, Ali F, Lotia I, et al. Extrapulmonary tuberculosis: a retrospective review of 194 cases at a tertiary care hospital in Karachi, Pakistan. JPMA The Journal of the Pakistan Medical Association. 2010;60:105.
12. Mohan NK, Ramesh D, Reddy KG. A study on various modes of presentation of gastrointestinal tuberculosis at emergency, its management and outcomes. Journal of Evidence Based Medicine and Healthcare. 2016;3:537-47.
13. Mehraj J, Khan ZY, Saeed DK, Shakoor S, Hasan R. Extrapulmonary tuberculosis among females in South Asia-gap analysis. Int J Mycobacteriol 2016;5:392-9.
14. Piatek AS, Van Cleeff M, Alexander H, Coggin WL, Rehr M, Van Kampen S, et al. GeneXpert for TB diagnosis: planned and purposeful implementation. Global Health: Science and Practice. 2013;1:18-23.
15. Valade S, Raskine L, Aout M, Malissin I, Brun P, Deye N, et al, Tuberculosis in the intensive care unit: a retrospective descriptive cohort study with determination of a predictive fatality score. Can J Infect Dis Med Microbiol 2012;24:173-8.
16. Shakoor S, Qamar FN, Mir F, Zaidi A, Hasan R. Are TB control programmes in South Asia ignoring children with disease? A situational analysis. Arch Dis Child 2015;100:198-205.
17. Sharma SK, Ryan H, Khaparde S, Sachdeva K, Singh AD, Mohan A, et al. Index-TB Guidelines: Guidelines on extrapulmonary tuberculosis for India. Indian J Med Res 2017;145:448.
18. Debi U, Ravisankar V, Prasad KK, Sinha SK, Sharma AK. Abdominal tuberculosis of the gastrointestinal tract: revisited. World J Gastroenterol 2014;20:14831.
19. Zumla A, Chakaya J, Centis R, D'Ambrosio L, Mwaba P, Bates M, et al. Tuberculosis treatment and management-an update on treatment regimens, trials, new drugs, and adjunct therapies. The Lancet Respiratory Medicine. 2015;3:220-34.
20. Bali RS, Jain R, Zahoor Y, Mittal A. Abdominal tuberculosis: a surgical emergency. Int. J. Med. Sci 2017;5:3847-50.
21. Mukhopadhyay A, Dey R, Bhattacharya U. Abdominal tuberculosis with an acute abdomen: our clinical experience. J Clin Diagn Res 2014; 8: NC07–NC09.

CONFLICT OF INTEREST
Authors declare no conflict of interest.
GRANT SUPPORT AND FINANCIAL DISCLOSURE
None declared.

AUTHORS' CONTRIBUTION

Conception and Design:	AM, WA
Data collection, analysis & interpretation:	AM, WA, DW
Manuscript writing:	AM, DW