ORIGINAL ARTICLE

Intestinal Tuberculosis Still a Diagnostic Challenge for the present day surgeon in our set up

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ABSTRACT

Background: Mycobacterium tuberculosis has been an important cause of morbidity and mortality from ancient times to date. Extra-pulmonary T. Binvolves 11-16% of all patients of T.B. out of which 3-4% belong to abdominal tuberculosis. Thus intestinal Tuberculosis still maintains a diversity in its clinical presentation, difficulty in diagnosis, and widespread complications often marked by prolonged morbidity and mortality.

Methods: This one year study was done at Lahore General Hospital, Lahore starting from 21st June 2015 till 31stJuly2016. All the patients presenting with signs and symptoms of abdominal tuberculosis in the surgical outpatient department and in the A/E department were included in the study. A total of 35 patients presented over one year period with intestinal tuberculosis.

Results: A total of 30 patients were included in the study 16(53.33%) were males and 14(47%) were females. All patients underwent exploratory laparotomy. Out of 30 patients 24 patients (80%) had intestinal obstruction 6 patients (20%) had intestinal perforation. Out of 24 patients a total of 11 patients (46%) underwent adhesiolysis. Double loop ileostomy was made in 6(25%) patients. Five patients underwent primary resection and anastomosis (21%). 2 patients underwent right hemicolectomy (8%) due to ileocaecal mass formation. All the 6 patients who had intestinal perforation underwent Ileostomy. Reversal of ileostomy of all patients was undertaken after 6 months of primary surgery and starting of ATT. Out of 12 patients 8 patients recovered successfully (66.66%).

Conclusion: Intestinal tuberculosis has a chronic onset, insidious course and bizarre presentation. No single test is still considered diagnostic for this purpose. H/P remains the gold standard which is not possible without laparotomy. Diagnostic laparoscopy may become an important diagnostic tool in future. Regarding surgical treatment adhesiolysis and ileostomy are still the most commonly used and safe treatment option in our set up.

Keywords: Intestinal TB, Mycobacterium tuberculosis, abdominal tuberculosis

INTRODUCTION

In our past & present there is always some little thing that is too big for us. One of these little things is "Mycobacterium Tuberculosis". Mycobacterium Tuberculosis has been extracting a substantial toll of morbidity and mortality on human race[1]. Extra-pulmonary T. Binvolves 11-16% of all patients of T.B. out of which 3-4% belong to Abdominal Tuberculosis[2]. The clinical features of intestinal tuberculosis are usually those of acute or subacute intestinal obstruction[3]. A study from India has reported 11% of all cases of small gut obstruction due to tuberculosis and a similar figure has been quoted from Pakistan[4,5].

Gastrointestinal tuberculosis has a non-specific presentation. Signs and symptoms are often vague, laboratory investigations and radiological findings are non-conclusive[6]. In our part of the world complications like intestinal perforation are highly common due to enteric fever and tuberculosis[7]. Thus intestinal tuberculosis continues to challenge the diagnostic acumen and therapeutic skills of present day surgeon.Only recently with the advent of diagnostic laparoscopy the diagnosis has been possible without a laparotomy[8].

Thus intestinal Tuberculosis still maintainsa diversity in its clinical presentation, difficulty in diagnosis, and widespread complications often marked by prolonged morbidity and mortality. Thus keeping the above mentioned facts in mind we have analyzed our cases presenting with intestinal tuberculosis at Lahore General Hospital to study its various aspects and highlight the different surgical options.

MATERIAL AND METHODS

This one year study was done at Lahore General Hospital, Lahore starting from 21st June 2015 till 31stJuly2016. All the patients presenting with signs and symptoms of abdominal tuberculosis in the surgical outpatient department and in the A/E department were included in the study. A total of 35 patients presented over one year period with

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intestinal tuberculosis. Age ranges were from 15 years and above. All patients who underwent exploratory laparotomy due to intestinal obstruction were included in the study. All patients who improved with conservative management were excluded from the study.

Each and every patient underwent routine investigations like complete blood picture, blood sugar, blood urea, serum creatinine, serum electrolytes, ECG, and urine complete. Regarding specific investigations, every patient underwent ESR, Mycodot, Montoux test, chest x-ray (PA view), X-ray abdomen (erect, supine) and abdominal ultrasound. Few patients had peritoneal aspirate fluid apirated per-operatively for biochemical analysis. All patients underwent histopathology of the resected specimen and biopsy of enlarged mesenteric lymph nodes. All patients were put on ATT. A few patients who had already completed 9 months of course of ATT were also put on ATT. A total of 5 patients improved with conservative treatment and were not included.

RESULTS

A total of 30 patients were included in the study 16(53.33%) were males and 14(47%) were females. ESR was raised in 20 patients(66.66%). Upper limit of ESR was taken as 15 mm after 1 hour for males and 20mm for females. Montoux test was positive in 13 patients (43.33%). Mycodot test was positive in 17 patients (56.66%). Chest X-ray was positive in 7 patients(23.33%). Abdominal X-ray was positive in 25 patients (83.33%) and ultrasongraphy and histopathology was positive in 27 patients (90%).

All patients underwent exploratory laparotomy. Out of 30 patients 24 patients (80%) had intestinal obstruction 6 patients (20%) had intestinal perforation.

Out of 24 patients a total of 11 patients(46%) underwent adhesiolysis. Double loop ileostomy was made in 6 patients (25%). 5 patients underwent primary resection and anastomosis(21%). 2 patients underwent right hemicolectomy(8%) due to ileocaecal mass formation.

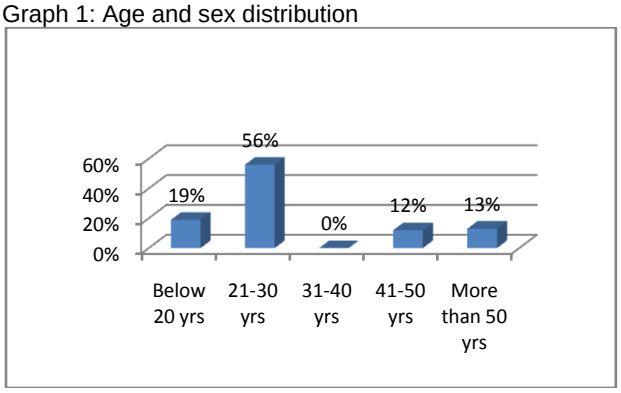
Table 1: Age and sex distribution (n=30)

Age	Male	Female	%age
Below 20 years	3	1	13.33
21-30 years	9	8	56.66
31-40 years	-	2	6.66
41-50 years	2	1	10
50 years and above	2	2	13.33

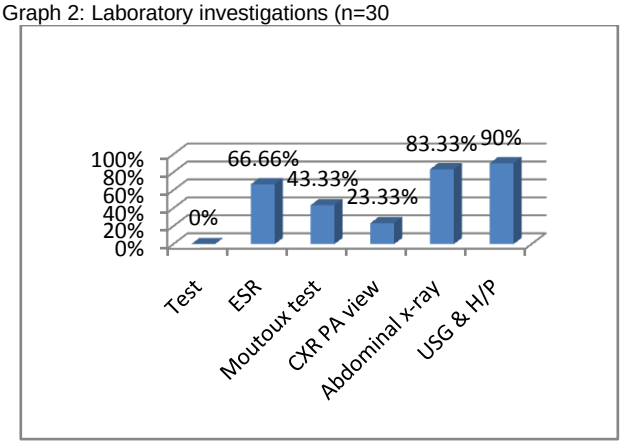
Table 2: Laboratory investigations (n=30)

ESR	20	66.66%
Montoux test	13	43.33%
Mycodot test	17	56.66%
CXR (PA VIEW)	7	23.33%
Abdominal x-ray	25	83.33%
USG & H/P	27	90%

Graph 1: Age and sex distribution



Graph 2: Laboratory investigations (n=30



All the 6 patients who had intestinal perforation underwent Ileostomy. Reversal of ileostomy of allpatients was undertaken after 6 months of primary surgery and starting of ATT. Out of 12 patients 08 patients recovered successfully (66.66%). A total of 4 patients died(2 due to leakage of primary anastomosis and 2 due to severe sepsis and respiratory failure(13.33%).patients who developed leakage were re-explored but could not recover due to sepsis and went into MODS and died.

DISCUSSION

Intestinal tuberculosis forms the bulk of abdominal tuberculosis which may include tuberculous peritonitis, tuberculous mesenteric lymphadenitis, mass formation and peritonitis either localized or generalized. When the results of this study are compared with the available literature most of the results are comparable but a few disparities also came into view. It is also worth mentioning that most of theliterature is from the subcontinent area and very few recent studies are available from European side.

Regarding age distribution 69.99% of the patients were between 20-30 years of age and 66.66% were between 30-50 years of age. This is comparable by a study done by Vikash et al in which he reported that majority of patients of intestinal

tuberculosis were in their 3rd decade of life (43.8%) or in fourth decade of life(21.9%)[12].

Regarding sex distribution in our study 53% were males and 47% were females thus showing a slight male pre-ponderance which is in contrast with majority of studies which report a female predominance. In a study done by Rakesh Ravat out of 40 cases 35% were males and 65% were females. He also reported that pulmonary tuberculosis affects males more common whereas intestinal tuberculosis is 3 to 4 times more common in females[13].

ESR a prognostic test was found to be raised in 67% cases which are in contrast with a study done by Baloch NA et al in which he reported that 70% cases who presented with intestinal tuberculosis ESR was not raised[14]. In another study done by Das and Shukla et al ESR was found to be raised in 92.9% of cases[15].

Montoux test was found to be positive in 13 patients (43%) which are comparable with the study done by Atta Ullah et al in which he reported a positive montoux test in 44% cases[16]. However montoux test is not diagnostic of tuberculosis as it may be negative in patients with active tuberculosis and it may be false positive in BCG vaccinated pts.

Chest X-ray was positive in 7 patients (23%) in this study whereas majority of the studies reveal evidence of TB on chest x-ray in 50% of cases[17].

A Mycodot test which detects antibodies in patients serum or blood through direct antigen antibody reaction was performed in all patients and was found to be positive in 17 patients (57%) which is less than the international quoted figures which reveal a positive %age of >80%[18].

Ultrasonography (USG) and Histopathology (H/P) remains the mainstay of diagnosis. USG findings include dilated gut loops, enlarged mesenteric lymph nodes, presence of ascites either localized or generalized. Histopathology was performed on all cases after laparotomy and was positive in all cases showing caseation necrosis and granuloma formation. USG and H/P was positive in 90% cases which is comparable with the local and international literature showing a sensitivity of >90% by Ismail et al[19] and 94% by Sadiq et al[20].

Thus no intervention can be relied soley upon for diagnosis of intestinal tuberculosis apart from H/P. The presentation of patients with intestinal tuberculosis is varied and diagnosis still rests on History and clinical evaluation. Tests like ESR, Mycodot, Montoux are suggestive and not diagnostic. Thus the diagnosis of intestinal tuberculosis is still a challenging problem for the current day surgeons. May be with the advent and availability of diagnostic laparoscopy such problems can be overcome.

Main surgical procedures done in this study were adhesiolysis (46%), followed by ileostomy formation (25%)and resection anastomosis (21%) which stands in contrast with other studies where resection anastomosis remains the most commonly performed surgical treatment (21%).

CONCLUSION

Intestinal tuberculosis has a chronic onset, insidious course and bizarre presentation. No single test is still considered diagnostic for this purpose. H/P remains the gold standard which is not possible without laparotomy. Diagnostic laparoscopy may become an important diagnostic tool in future. Regarding surgical treatment adhesiolysis and ileostomy are still the most commonly used and safe treatment option in our set up.

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