Original Article

Various Presentation of Abdominal Tuberculosis in Surgical Patients

Abdominal TB

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ABSTRACT

Objective: To see the various presentation of abdominal tuberculois in surgical patients.
Study Design: prospective study
Place and Duration of Study: This study was carried out in the Surgical Department at civil Hospital Karachi, from Oct 2011 to 31st May 2012.
Materials and Methods: Study consisted of twenty six patients. Base line and specific investigations were done in all patients, especially mantoux test, sputum examination x-ray abdomen and ultrasound of abdomen. Inclusion criteria were that all patients diagnosed as case of tuberculosis on the basis of history, clinical examination and investigations. Exclusion criteria included unfit patients for general anesthesia, pregnant ladies due to risk of foetal loss, patients with carcinoma of colon. Data was analyzed through SPSS software.
Results: 26 cases of abdominal tuberculosis. 12 males (46.15%) and 14 females (53.84%). Male to female ratio was 1:1.16. Age ranged from fifteen to seventy years with mean age of patients were 42.1 years. Twelve Patients (46.15%) presented in subacute intestinal obstruction, four patients (15.38%) with acute intestinal obstruction, six (23.07%) with signs of peritonism and four (l5.38%) with mass in abdomen. Erythrocyte sedimentation was 2 patients (7.70%) had ESR 20 mm/hr, eight patients (30.77%) between 20 to 40 mm/hr, eleven patients (42.1%) between 40 to 60 mm/hr and five patients (19.23%) between 60 to 100 mm/hr. Liver Function Test was within normal range in all of them. Mantoux Test was found positive in fourteen (53.84%). Plain x-ray abdomen erect and supine position showed sixteen patients (61.54%) significant findings were observed. Barium meal and Follow through examination was performed in four patients (15.38%). Three patients (75%) showed narrowing of ileum and irregularities in the caecum and one' patient (25%) had dilated small bowel loops with narrowing of terminal part of ileum while caecum was normal. In one patient (3.84%) small bowel enema revealed delayed emptying of small bowel with dilatation of jejunum, Barium enema was performed in three cases, which revealed, filling defect in caecum and narrowing at ileocecal junction.
Conclusion: We conclude that The clinical features of this disease are usually non-specific, vague and diverse therefore the accurate diagnosis is some times difficult.
Key Words: Abdominal tuberculois, presentation of abdominal tuberculois.

INTRODUCTION

Tuberculosis has been a diagnostic challenge throughout recorded history and still remains an important and challenging problem. Abdominal tuberculosis is a universal community health problem in developing countries. Globally every year 3 million people expire due to tuberculosis [1]. It can occur as a primary disease or develop secondary to pulmonary tuberculosis associated with significant morbidity and mortality.[2,3,4] In 2000-2020, an estimated 1 billion people will be infected, 200 million people will become sick, and 35 million will die from TB, if control is not strengthened [5]. Extrapulmonary form of tuberculosis is not easy to diagnose and remains of severe concern for human population. Abdominal tuberculosis presentation are bizarre, chronic, insiduous and difficult diagnosis. Intestinal tuberculosis can affect any part of the gastrointestinal[6]. The most commonly affected is terminal ileum. Mostly patient of intestinal tuberculosis present chronic or acute on chronic intestinal obstruction associated symptoms of enteropathy, weight loss, fever etc[7]. Surgical interventional is required when it causes intestinal obstruction or perforation, lump in the ileocaecal region, features of sub acute intestinal obstruction, ill health, and slight rise of temperature [8]. We have analysed our patients to highlight the various presentations of abdominal tuberculosis seen in our surgical set up.

MATERIALS AND METHODS

This prospective study was carried out in surgical department at civil Hospital Karachi, from Oct 2011 to 31st May 2012. This study consisted of twenty six patients, admitted through surgical outpatient emergency and OPD.

Base line and specific investigations were done in all patients, especially mantoux test, sputum examination x-ray abdomen and ultrasound of abdomen. Inclusion criteria were that all patients diagnosed as case of

tuberculosis on the basis of history, clinical examination and investigations. Exclusion criteria included unfit patients for general anesthesia, pregnant ladies due to risk of foetal loss, patients with carcinoma of colon. All twenty six patients under went operation. During operation gross appearance of gut, region of the intestine involved, perforation and extra intestinal involment like peritoneum, omentum and lymph node were noted. Results were prepared with help of tables and graphs. Data was analyzed through SPSS software.

RESULTS

The 26 cases of abdominal tuberculosis were admitted. There were twelve males (46.15%) and fourteen females (53.84%). Male to female ratio was 1:1.16. The age ranged from fifteen to seventy years with mean age of patients were 42.1 years.

Twelve Patients (46.15%) presented in subacute intestinal obstruction, four patients (15.38%) with acute intestinal obstruction, six (23.07%) with signs of peritonism and four (l5.38%) with mass in abdomen (Chart No.1).

All patients in this study belonged to poor socio-economic group. Sixteen patients (6l.54%) were from urban and ten (38.46%) from rural area.

Pain in abdomen was the most common symptom and occurring in all cases. In ten patients (38.46%), it was marked in right lower quadrant of abdomen and was generalized in eight patients 30.77%. Pain was colicky in five patients (19.23%) and as vague discomfort in three patients (11.54%). Anorexia was noted in the eighteen patients (69.23%). Fifteen patients (57.70%). Four patients (15.38%) had history of diarrhea while three patients (11.53%) had diarrhea alternating constipation. History of significant weight loss was present in sixteen patients (57.70%).

Distension of abdomen was noted in fifteen patients (57.70%). Out of 15 patients 10(66.66%) cases distension was prominent in the centre of abdomen and in remaining five patients (33.33%) it was observed as the mild bulge in the right lower quadrant of abdomen. Tenderness in twenty four patients (92%). Out of 24 patients 16(66.66%) cases were more marked in the right lower abdomen while in the remaining 8(33.33%) cases tenderness was generalized. Palpable mass was present in four patients (15%). Mass in the right iliac fossa was present in three patients while one patient had irregular and ill defined mass in umbilical region.

Routine investigations were performed in all cases. Erythrocyte sedimentation was 2 patients (7.70%) had ESR 20 mm/hr, eight patients (30.77%) between 20 to 40 mm/hr, eleven patients (42.1%) between 40 to 60 mm/hr and five patients (19.23%) between 60 to 100 mm/hr. Liver Function Test was within normal range in all of them. Mantoux Test was found positive in fourteen (53.84%). Plain x-ray abdomen erect and supine position showed sixteen patients (61.54%) significant findings were observed. Multiple intraluminal fluid levels and gaseous distension of small intestine were seen in thirteen patients (81.25%). Signs of free peritoneal fluid (ground glass appearance) were noted in two patients (12.50%) and free gas under the diaphragm was noted in one patient (6.25%).

Barium contrast study was done in eight patients who had no history of acute obstruction but with high suspicion of abdominal tuberculosis at the time of admission through out patient department. Barium meal and Follow through examination was performed in four patients (15.38%). Three patients (75%) showed narrowing of ileum and irregularities in the caecum and one' patient (25%) had dilated small bowel loops with narrowing of terminal part of ileum while caecum was normal. In one patient (3.84%) small bowel enema revealed delayed emptying of small bowel with dilatation of jejunum, Barium enema was performed in three cases, which revealed, filling defect in caecum and narrowing at ileocecal junction.

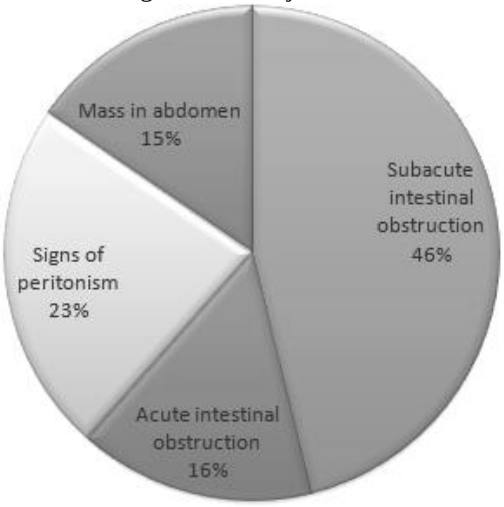

Chart No.1: Pattern of presentation

Abdominal ultrasonography was performed in twelve cases, which revealed dilated bowel loops and enlarged lymph node in eight patients and free intra peritonial fluid in four patients. Although these findings were non specific but proved to be useful in diagnosis.

Operative finding were showed fourteen patients (53.85%), the disease process was confined to the distal ileum while in seven patients (26.92%) ileocaecal region was involved. In two patients (7.69%) mid ileum and jejunum was involved. Peritoneal tuberculosis was noted in three patients (11.53%).

Perforation was observed in total six patients (23.07%). In four patients (66.66%) perforation was single and terminal part of ileum was involved. Multiple perforations were noticed in two cases (33.33%), present in terminal and proximal part of ileum.

DISCUSSION

Abdominal tuberculosis with its protean profile and varied manifestation is a challenge for clinical acumen and therapeutic skill of clinician[9]. Abdominal tuberculosis is one of the commonest diseases in developing countries like Pakistan. The incidence of abdominal tuberculosis is increasing globally because of improved travelling facilities which has converted a world into global village .It is reported that the incidence of tuberculosis is high in immigrants in United States[10].

There is a wide spectrum of clinical features of abdominal tuberculosis, no age no organ and no human race is immune. Patients may sometimes be asymptomatic and unaware of their disease. Symptoms when do occur are very vague and clinical diagnosis of disease is very difficult .Some workers divide the disease into acute and chronic .Only 5% patients presents with acute abdomen in the study of Lewis and Kolowole[11]. 45% patients presents with acute abdomen. Lambrianides study shows 32%of acute abdominal cases[12].

Tuberculous peritonitis appears to be more common in females than in males[13]. In our study found were twelve males (46.15%) and fourteen females (53.84%). Male to female ratio was 1:1.16. However in the study of Ishtiaq Ali Khan reported majority of patients were females 52(68.4%) and male 24(31.57%)[14].

The disease can occur at any age but is more common in young adults. In our study the age ranged from fifteen to seventy years with mean age of patients were 42.1 years. While in the study of Muhammad Farooq Umer reported he mean age in our study is 39 years which is slight lower than observation of various studies [15].

In the study of JP Mamo[16] the most common clinical manifestations included abdominal pain (71%), weight loss (59%), diarrhoea (47%) and pyrexia (41%). While in our study we observed ten patients (38.46%), it was marked in right lower quadrant of abdomen and was generalized in eight patients 30.77%. Pain was colicky in five patients (19.23%) and as vague discomfort in three patients (11.54%). Anorexia was noted in the eighteen patients (69.23%). Fifteen patients (57.70%). Four patients (15.38%) had history of diarrhea while three patients (11.53%) had diarrhea alternating constipation. History of significant weight loss was present in sixteen patients (57.70%).

In the study of Muhammad Farooq Umer [15] reported the Hb% rang from 7.5-11 gm % with average 9.25 gm%. ESR rang from 75-110 mm in 1st hour, with mean of 62.5. X-Ray chest was found positive for pulmonary tuberculosis in 7 patients (16.66). Plain X-Ray abdomen showed free air under diaphragm in 16(38.095%) patients. 20 patients(47.61%) were positive for multiple air fl uid level. In 12 (28.57%) patients, ultra sound revealed mass in right lower abdomen and 19 case (45.23%) free fluid in peritoneal cavity. 35 patients(83.33%) had enlarged mesenteric lymph nodes on ultra sound. Barium meal studies revealed one or more of the features like narrowing of distal ileum and ileocaecal region and matted small bowel. While in over study reported Erythrocyte sedimentation was 2 patients (7.70%) had ESR 20 mm/hr, eight patients (30.77%) between 20 to 40 mm/hr, eleven patients (42.1%) between 40 to 60 mm/hr and five patients (19.23%) between 60 to 100 mm/hr. Liver Function Test was within normal range in all of them. Mantoux Test was found positive in fourteen (53.84%). Plain x-ray abdomen erect and supine position showed sixteen patients (61.54%) significant findings were observed. Multiple intraluminal fluid levels and gaseous distension of small intestine were seen in thirteen patients(81.25%).

Signs of free peritoneal fluid (ground glass appearance) were noted in two patients (12.50%) and free gas under the diaphragm was noted in one patient (6.25%). This is in accordance with Anand and Das Shuklal who reported ESR more than 20 mm/hr in 80% and 93% respectively.Fourteen (82.93%) patients were Mantoux positive out of seventeen patients. Similar to that reported by Shukla [17] and Naseer Baloch[18] .

Plain x-ray abdomen was performed in all cases. Multiple intraluminal fluid levels and gaseous distension of small intestine were seen in thirteen patients with signs of free peritoneal fluid was noted in two patients and free gas under right side of diaphragm was seen in one case. Baloch [18] and Das Shuklal[17] mentioned similar features in their studies while Angeline A. Lazarus[19] reported free gas under the diaphragm in his study.

Barium follow-through was performed in five cases which revealed pulled-up caecum, filling defect in caecum and dilated small bowel loops with narrowing in terminal part of ileum. Philip Abraham [20], Das Sukula [17] and Naseer Baloch[18] reported the same. Barium Enema was performed in three cases which showed filling defect in caecum and narrowing at the ileocecal junction. Features described in our study were same as reported byd Naseer Balouch [18]. Barium follow through and double contrast barium enema was the most useful investigation. It is difficult to differentiate between intestinal tuberculosis and crohn's disease on barium follow through and barium enema. But the crohn's disease being a rare entity in our part of the world shows a predilection towards the diagnosis of abdominal tuberculosis [21].

Abdominal ultrasonography was performed in twelve cases, which revealed dilated bowel loops, enlarged

lymph node in 66.66% patients and free intra peritonial fluid in 33.33% patients. Similar findings were noted by Kedar-RP[22] and Abdel Baqi [23]. Although it is a non specific investigation but in appropriate clinical situations it can be of great help in diagnosis of abdominal tuberculosis.

In our study operative finding were showed fourteen patients (53.85%), the disease process was confined to the distal ileum while in seven patients (26.92%) ileocaecal region was involved. In two patients (7.69%) mid ileum and jejunum was involved. Peritoneal tuberculosis was noted in three patients (11.53%). While in the study of Baloch showed the terminal ileum as the most frequent site involved like in our study. Ileocaecal involvement was noted in 28% cases. Other workers noted same findings as in our study like Marshal mentioned a predominance of ileocaecal involvement [24].

In our study perforation were observed in total six patients (23.07%) . In four patients (66.66%) perforation was single and terminal part of ileum was involved. Multiple perforations were noticed in two cases (33.33%), present in terminal and proximal part of ileum. Perforation occurred in total six patients (24%). The terminal ileum was frequent site noted in the study of Aston's [25] and Agrawal S [26].

CONCLUSION

Presentation of abdominal tuberculosis used to be late in the course of their disease and most often some acute catastrophe brings them to surgeon. The clinical features of this disease are usually non-specific, vague and diverse therefore the accurate diagnosis is some times difficult. Inspite of this tuberculosis should be considered in any patient who has obscure abdominal symptoms, weight loss and lethargy. Investigations for abdominal tuberculosis are not much helpful. Surgery provides a hope of relief and making a correct diagnosis by obtaining adequate tissue for histopathology.

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