

Presentation and Management of Abdominal Tuberculosis: Experience of the Department of Surgery, Lady Reading Hospital Peshawar

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ABSTRACT

Background: Current study aims to determine the frequency of abdominal tuberculosis and to evaluate the current surgical treatment strategies and its outcome.

Methods: This prospective observational case series study was conducted in Medical Teaching Institute (MTI) surgical department of the Lady Reading Hospital Peshawar from January 2015 to January 2016. In this study a total of 40 patients of abdominal tuberculosis were admitted in surgical department through emergency and outpatient department. All the patients underwent surgery, 75% in the casualty and 25% as elective cases. Detailed history was taken from all patients and surgery was performed. Diagnosis of abdominal tuberculosis was established on histological basis. Data was entered and analyzed in SPSS.

Results: Thirty (75%) patients were admitted through casualty as acute emergency, 10 (25%) through OPD. Mean age of the patients was 32.3 years (range = 15-70 years). Most commonly affected age group was 20-29 years. Male to female ratio was 1.1:1. Among total 40 patients, 25 (62.5%) patients had intestinal tuberculosis while 14 (35%) patients had tuberculous peritonitis and 1 (2.5%) patient had isolated lymph node involvement. Histological examination showed typical tuberculous granulomas with caseation in most of involved tissues.

Conclusion: Abdominal tuberculosis is still one of the most common cause for acute/sub-acute abdomen. Diagnosis can be frequently delayed if index of suspicion is low. Neglected undiagnosed cases frequently present with consequences like intestinal perforation and advanced obstruction. Furthermore, vigorous resuscitation in the preoperative period is vital for a favorable outcome.

Keywords: Abdominal tuberculosis, Surgical management, Histopathology.

INTRODUCTION

Abdominal tuberculosis (TB) includes TB of the gastrointestinal tract, peritoneum, mesentery, mesenteric lymph nodes and other solid intra-abdominal organs like liver, spleen and pancreas⁽¹⁾. Abdominal TB comprises about 1–3% of all cases of tuberculosis and about 12% of extra pulmonary tuberculosis. Primary abdominal tuberculosis is rare. Ingested food, swallowing infected sputum, haematogenous route are sources of spread or direct contact through the infective lymph nodes and the retrograde spread via fallopian tubes makes the tubercle bacilli reach the gastrointestinal tract⁽²⁾. While dealing with a patient having chronic abdominal symptoms, abdominal tuberculosis should definitely come at the top of the list of differential diagnosis. Unfortunately many patients of abdominal TB get complications

because of the negligence and difficulty in diagnosing this disease which is still largely diagnosed on the operating table^(3,4). Prevalence rate in the developing countries had only slightly decreased while at the same time their population had considerably increased. Additionally, the tragic factor of AIDS pandemic has resulted in an explosion of tuberculosis in a number of countries adding fuel to the fire^(5,6).

While the incidence of Abdominal TB still seems high in Southeast Asia, the developed western nations, which until a few years ago, were largely considered to be free of this disease, are again experiencing a revival of this disease due to increasing migrations of people from areas of high prevalence and AIDS epidemic which is decreasing resistance to the disease⁽⁷⁾. Current study aims to determine the frequency of

abdominal tuberculosis and disease pattern in a surgical unit of tertiary care hospital and to evaluate the current surgical treatment strategies and its outcome.

PATIENTS AND METHODS

This prospective observational case series study was conducted in surgical department of Lady Reading Hospital Peshawar from January 2015 to January 2016. A total of 40 patients of abdominal tuberculosis were admitted in surgical department through emergency and out-patient department (OPD) using non-probability sampling technique. This study included all those patients above 12 years of age, who were operated and later confirmed to have abdominal tuberculosis on histological or bacteriologic examination of the specimens obtained during operation. For inclusion in the study, the following criteria was used. Typical features of TB lesion as seen on gross examination, histological proof of typical TB granulomas in specimens obtained during surgery and positive response to specific anti-TB therapy. Patients associated with other chronic disease were also included in the study. Those patients who presented in the casualty department as acute emergency were evaluated and preoperative diagnostic work up consisted of history taking, general and systemic examination and investigations which owing to acuteness of condition demanded early surgical intervention, were limited to radiological examination of chest and abdomen A by F level, gas under diaphragm, CT abdomen, barium studies, Acid Fast Bacilli for sputum, hematological investigations like estimation of hemoglobin, ESR, blood urea and sugar and blood grouping and cross matching. Patients who were received in a critical state had to be resuscitated by measures like administration of intravenous fluids and broad-spectrum antibiotics, blood transfusions, insertion of nasogastric tube and catheterization. An emphasis was placed on doing limited or conservative procedures in elderly, unstable and unfit patients, while more extensive procedures were reserved for otherwise stable fit and younger patients. Surgical procedures were selected according to nature and extent of pathology. In patients with extensive adhesions (frozen abdomen), surgical approach was more conservative, limited to biopsy from omentum or peritoneum only. Less extensive adhesions were carefully released avoiding injury to gut. Tissue for biopsy was obtained from

different sites depending on the site of involvement, like gut, peritoneum, omentum and mesenteric lymph nodes. Part of it was preserved and sent for acid fast bacilli staining and part of it was preserved and sent for histological demonstration of tuberculous granulomas also from oxidative ascites. During follow-up all the patients received standard 9 month ATT treatment. Monthly follow-up in 32 patients, 6 patients lost to follow-ups, 12 patients with Stoma admitted for closure after 3 months (4 patients), 4 months (6 patients), 5 months (2 patients) while 2 patients died of morbidity. All data analyses were performed using the SPSS program.

RESULTS

Total 40 cases of abdominal tuberculosis was recruited in this study. Among them 30 (75%) cases were received and admitted through the casualty department of the hospital, while 10 cases were admitted from OPD. In all emergency admitted patients, presentation was acute and of sufficient severity to warrant immediate surgical intervention.

Out of 40 cases, 21 (52.5%) were males and 19(47.5%) were females. The male to female ratio was 1.1:1. Mean age at the time of presentation was 32.3 years (range = 15-70 years). Majority of the patients have following common symptoms including pallor, malaise, anorexia, weight loss, constipation, abdominal colic, pain abdomen, vomiting, diarrhea, fever. While frequent signs were distention, tenderness, guarding, rigidity, visible loops, visible peristalsis, mass abdomen and ascites.

Overall, intestinal involvement was seen in 25 cases, while peritoneal involvement (tuberculous peritonitis) was found in 14 patients, mesenteric lymph node pathology as an isolated lesion was found in only 1 (2.5%) case. All these showed presence of multiple small granulomas, scattered all over the viscera and peritoneum with accompanying straw-colored ascites. Caveating tuberculous mesenteric lymph nodes were also seen in other 18 patients, but there were also accompanying intestinal or peritoneal pathology. Type of lesions are given in Table 1 while surgical procedure adopted for the lesions are mentioned in the Table 2.

Post-operative complication and morbidity were wound infection (4%), wound dehiscence (9%), paralytic ileus (10%), anastomotic leakage (2%), chest infection (5%), cardiac failure (2%),

severe malnutrition (5%), intestinal fistula (1%) and 2 patients were died.

Table 1: Types of lesions encountered

Site involved	Type of pathology	Frequency
Jejunum	Stricture	1
	Perforation	1
Ileum	Stricture	3
	Perforation	3
Terminal Ileum/Caecum	Stricture	9
	IC Mass	5
Colon	Caecal perforation	1
	Stricture	1
	Ulcers	1
Peritoneum	Plastic TB peritonitis	10
	Ascitic TB peritonitis	4
Lymph Nodes	Isolated MLA adenopathy	1
	Isolated MLA adenopathy	1
	In combination	18

Table 2: Surgical procedures performed

Procedure	Frequency (%)
Resection E-E anastomosis	4 (10)
Resection DB ileostomy	7 (17.5)
Resection DB jejunostomy	1 (2.5)
Right hemicolectomy	5 (12.5)
Stricturoplasty	3 (7.5)
Resection DB Colostomy	2 (5)
Release of Adhesions only	10 (25)
Laparoscopic biopsy	3 (7.5)
Biopsy after open surgery	5 (12.5)

DISCUSSION

Abdominal tuberculosis from the beginning of the world has been a global problem. AIDS, which has become an epidemic in many western and some third world countries, is greatly contributing to the increase in its prevalence⁽⁸⁾. Most of the patients presented as acute emergency (77%). This is a similar finding to some local studies in which 76%⁽⁹⁾ and 83%⁽¹⁰⁾ of cases presented as emergency. Studies from third world countries indicate that the proportion of patient presenting acutely with complications is fairly high. This

situation is different in some of western countries like UK, where abdominal tuberculosis rarely cause acute emergency⁽¹¹⁾.

Ileocecal mass was seen in 12.5% of cases. In other studies this was noted in 17%⁽⁹⁾. In abdominal tuberculosis, surgery is reserved for complications. Complications of enteric tuberculosis that may require surgical intervention include obstruction, hemorrhage, perforation with abscess formation, free perforation with peritonitis and fistula formation⁽¹²⁾. In this study, majority of the patients presented with acute complications that demanded immediate surgical exploration, while in other studies, surgery was considered to arrive at an early conclusion. Indeed, the rate of laparotomy is high in our part of the world as most of the patients present at a late stage of complications. Even in developed countries like UK, the rate of surgical exploration is stated to be high⁽¹³⁾.

In this study, intestinal involvement was seen in 52.5% of cases, while the peritoneum was involved in 45% cases. In another local study, the intestinal involvement was seen in 53.13% and peritoneal involvement in 34.8% cases⁽¹⁴⁾. Tuberculous peritonitis is regarded as the commonest form of abdominal tuberculosis and its incidence ranges from 0.1% to 0.7% of all reported cases of tuberculosis⁽¹⁵⁾. In a recent study intestinal involvement was 48% and peritoneal involvement was 35.2%⁽¹⁶⁾. In this study, the plastic variety was much common than the ascetic variety, while other studies indicate that the later is much more common⁽¹⁵⁾. Ileum (77%) was mostly involved region in this study, findings similar to many previous studies^(14,17). In this study, strictures of the intestine, which were the most common (42.5%) findings, were dealt either by resection and end-to-end anastomosis or by doing stricturoplasty. In some other local studies the frequency of strictures varies from 56%⁽¹⁷⁾. Resection and end to end anastomosis was carried out in 7 (17.5%) cases which is comparable to some local studies like 26.4%⁽¹⁷⁾. Stricturoplasty, which is recommended in case of partially obstructing strictures, was performed in 4 (10%) cases and in all, the result was excellent. In some cases more than 33 have been performed. In different studies it has been done with varying frequencies 22.05%^(17,18). Some authorities advise against doing bypass as it creates a blind loop which can later give the problems of malabsorption and blind loop syndrome, recurrent obstruction,

fistula and cold abscess should be considered only in advanced disease⁽¹²⁾. However, such patients can later be managed by doing formal right hemicolectomy once they become fit and stable to withstand this more extensive procedure.

CONCLUSIONS

Abdominal tuberculosis is still common in Pakistan and also most common cause of acute and subacute intestinal obstruction. This disease affects younger people usually in 3rd decade. Males and female are affected almost equally and patients are presented usually in acute emergency due to its non-specific and vague signs and symptoms. Early diagnosis and better patient management could help to decrease morbidity related complications. Vigorous resuscitation in the pre-operative period is vital for a favorable outcome. Long term results are excellent with conventional anti tuberculous treatment provided regular follow-ups are carried out in such patients.

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