Surgical Aspects of Abdominal Tuberculosis

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Tuberculosis is a disease of great antiquity and evidence of bone disease has been found in Egyptian and Pre-Columbian mummies. The study was carried out between March 1999 to December 2002. Out of 158 patients 97% were in their 2nd to 4th decades of life with female predominance (63%). Surgical treatment was opted in 73% of patients. Pain abdomen (100%) fever (92%), weight loss (63%), mass abdomen (23%) and abdominal distension (50%) were the symptoms and signs diagnostic of tuberculosis. Ulcerative (42%) and hypertrophic (26%) were the commonest pathological types. Resection and anastomosis (31%) right hemicolectomy (17%), jejunostomy (14%) double barrel ileostomy (16.5%) and ileocolostomy (7%) were the procedures carried out. Morbidity (62%) and mortality (9.5%) are very high. Cure lies in prevention rather than chemotherapy or surgery.
Key words: Abdominal tuberculosis, short bowel syndrome, laparoscopic assisted right hemicolectomy,

Tuberculosis is a disease of great antiquity and evidence of bone disease has been found in Egyptian and pre-Columbian mummies. Until specific anti-tuberculous drugs (Streptomycin, INH and Paramino Salicylic Acid) became available in 1940, treatment of tuberculosis was empirical. The diagnosis was a life time sentence. Bed rest, plenty of food, fresh air and sunshine in Sanetoria built on hill sides used to be the only ways of treating tuberculosis[1,2].

Abdominal tuberculosis could be peritoneal or gastrointestinal. Either form can complicate the other and each can present in acute, sub-acute or chronic form. The diagnosis of abdominal tuberculosis can be made confidently in most of cases. There may be a small group of patients where diagnosis cannot be made despite appropriate investigations and a therapeutic kind of anti tuberculous therapy (ATT) may be considered on the basis of a strong clinical suspicion. Surgical therapy is reserved for complications like, strictures, fistulae and GI bleed[3].

Materials and methods

This retrospective study was carried out during March 1999 to December 2002 at North Surgical Unit of Mayo Hospital, Lahore. All patients with abdominal tuberculosis were included. Diagnosis was based on history, physical examination and investigations. Investigations included blood C/E, ESR, Montoux test, PCR, diagnostic laparoscopy, diagnostic laparotomy and confirmed by tissue biopsy. Treatment included antituberculous therapy including first line of drugs in combination therapy or inclusion of 2nd line drugs in cases of multiple drugs resistance (MDR). Surgical treatment was offered to cases who have symptoms or signs of intestinal obstruction or peritonitis. Surgical options included both exploratory laparotomy or laparoscopic assisted surgery. During surgical procedure, following observation were made; type of abdominal tuberculosis, number of strictures, type of the gut, number of perforations and extent of disease.

Results

In this study,carried out on 158 patients, females are more vulnerable to this disease as compared to males as shown in Fig.I. Most of the patients were in their 2nd and 3rd decade of life as shown inTable 1. Pain abdomen, fever and weight loss were the commonest symptoms as shown in Fig.2. Mostly patients presented in emergency or outpatient without prior diagnosis as shown in Fig. 3. The details of various forms of abdominal tuberculosis observed are shown in table 2.

Thirty seven patients had enteric perforation. Various treatment modalities and surgical procedures performed are shown in Table 3 and 4. Procedures carried out by laparoscopy are shown in table 5. Morbidity and mortality during this study is given in table 6.

Fig. 1. Sex incidence

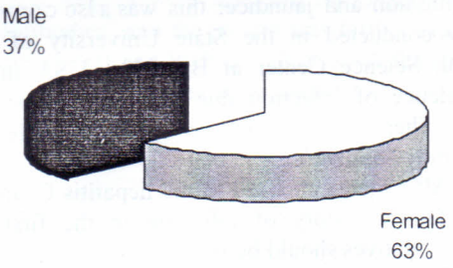

Fig. 2. Common presenting complaints

Table 1. Age groups

Age group	n=	%age
12-20	74	46.84
21-30	54	34.17
31-40	25	15.83
41-50	03	01.90
51-60	01	0.03
61-70	01	0.63
Total	158	100

Fig. 2. Common presenting complaints

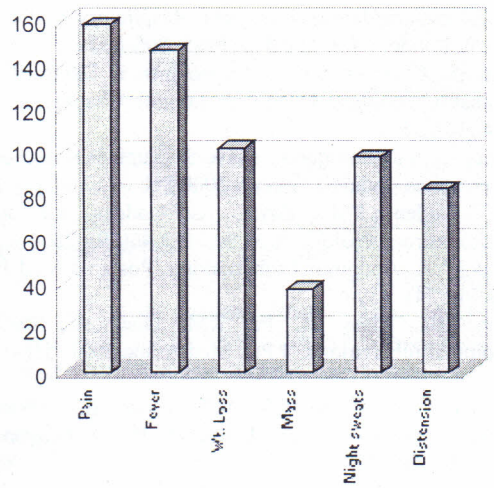

Fig. 3. Patterns of presentation

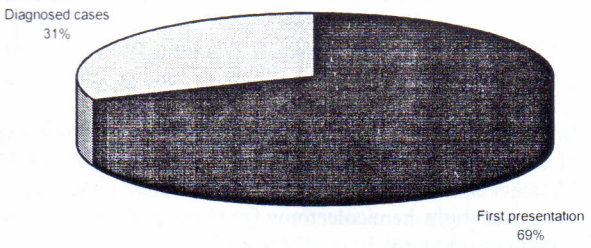

Table 2. Forms of abdominal tuberculosis

Forms	n=	%age
Ulcerative	48	41.7
Hypertrophic	30	26.1
Ascitic	17	14.8
Fibrotic/Plastic	12	10.4
Purulent	08	07.0
Total	115	100

Table 3. Treatment options

Options	n=	%age
Conservative	43	27.2
Exploratory laparotomy	99	62.7
Laparoscopy	16	10.1
Total	158	100

Table 4. Surgical procedures performed

Procedures	n=	%age
Resection and end-to-end anastomosis	24	21.0
Right hemicolectomy	19	16.5
Jejunostomy	16	14.0
Double barrel ileostomy	19	16.5
Ileocolostomy	08	07.0
Biopsy only	21	18.2
Adhenolysis	08	07.0

Table 5. Procedures done by laparoscopy

Procedures	n=	%age
Biopsy only	6	37.50
Right hemicolectomy	7	43.75
Resection and end to end anastomosis	3	18.75

Table 6: Complications after intervention

Complications	n=	%age
Wound infection	36	31.3
Chest infection	35	30.4
Dehiscence	12	10.4
Fistula	04	3.47
Short bowel syndrome	12	10.4
Adhesion obstruction	08	6.96
ARDS	07	6.98
Sepsis	12	10.4
Mortality	11	9.56

Discussion

The abdomen is one of the commonest site of extrapulmonary tuberculosis and its incidence is increasing[4,5]. The familiarity with its clinical presentation shortens its diagnostic time and improves its management[4].

Females are more neglected and malnourished in our general population. Thus contract communicable disease more frequently. This is also reflected in abdominal tuberculosis where they outnumbered males as evident from our and other studies[6].

World over abdominal tuberculosis is common among young adults and that is found true in our study as well[6,7].

About one third of the patients in our study were on antituberculous therapy either for pulmonary, abdominal or extrapulmonary tuberculosis before presentation. Rests of the patients were diagnosed on the basis of history, clinical signs and investigations. Later confirmed on histopathology where possible. Low-grade fever, weight loss, anorexia and abdominal pain were the common symptoms whereas mass abdomen and abdominal distension were the signs suggestive of abdominal tuberculosis. These are in lieu with other studies[6,7,8,9].

We observed in our study that conservative management (drips and suction, analgesics, antituberculous therapy) of patients with sub acute intestinal obstruction or chronic pain do help the patients, but still majority of the patients required exploratory laparotomy for diagnosis or the relief of their symptoms. Interestingly as in other studies, laparoscopy was found to be a good diagnostic tool as an alternative to diagnostic laparotomy in our study with less morbidity[10].

Histopathological and operative findings in our study showed that majority of the patients had ulcerative, hypertrophic, purulent or mixed form of abdominal tuberculosis but few still cannot be diagnosed[11]. In these patients one has to go for therapeutic trials of antituberculous therapy with close monitoring[6]. Surgical

treatment was opted in seventy percent of our patients either in form of laparotomy or laparoscopy. The increased rate of stoma formation in our study was because of the patients had plastered abdomen with severely diseased gut with multiple strictures or they have long standing peritonitis of more than 72 hours after stricture perforation. The other finding was very high output jejunostomy or ileostomy because of the involvement of jejunum and proximal ileum. Similarly, severely diseased gut with multiple strictures, perforation or jumbled mass when resected results in short bowel syndrome even if primary anastomosis can be performed which poses a problem in rehabilitation of the patient. These observations are not reported in literature before.

We also found that laparoscopic assisted resection anastomosis and right hemicolectomy decreases the morbidity of the patient and is more economical but requires expertise to be available[12].

The high rate of morbidity and mortality in our series is because of multiple drug resistance,poverty, poor health and late presentation of the patients for management being primarily treated by hakeems, quacks and homeopaths.

Conclusion

There is a resurgence of abdominal tuberculosis probably due to MDR cases. Poor patient compliance remains a problem in our society. This is particularly true in patients undergoing surgical procedures who are under the misconception that cure is the rule after surgery. Patterns of intestinal tuberculosis are changing as most of surgical presentations are through emergency. Late presentation remains a problem in our country, which increases its morbidity and mortality. Cure lies in the prevention rather than chemotherapy or surgery.

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