SHORT COMMUNICATION

Spectrum of abdominal-tuberculosis in emergency surgery: 100 cases at a tertiary care Centre Dow University of Health Sciences and Civil Hospital Karachi, Pakistan

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Abstract

The study highlights the spectrum of abdominal TB in emergency surgery and its outcome. A proforma based prospective cross sectional study was conducted from March 2008 - March 2014, at the Department of General Surgery, Dow University of Health Sciences & Civil Hospital Karachi, Pakistan. Total patients studied were hundred. Ninety percent patients presented through the emergency department. Mean age was 30 ± 7.29 years. Family history of TB was positive in 46 (46%) patients. Pulmonary TB was present in 22 (22%), and 52 (52%) - were already on Antitubercular Therapy-- Emergency exploratory laparotomy was performed in 85 (85%) patients with 61 (61%) having peritonitis. and 24 (24%) having acute intestinal obstruction. A total of 15 (15%) patients were kept on ATT under observation, Of these 7(7%) were diagnosed with Ileocaecal mass, 5 (5%) with enterocutaneous fistula, and 3(3%) had sub-acute intestinal obstruction. Ileum was the most common site for abdominal TB in 36(36%), followed by ileocaecal TB in 13 (13%) and jejunal TB in 12 (12%). Stoma and abdominal washout was the minimum procedure which was performed in 34 (34%) cases. Fourteen (14%) patients diagnosed with ileocaecal TB, received limited right hemi colectomy with two end stoma whereas 7(7%) patients were subjected to limited right hemi colectomy with primary anastomosis. Patients with multiple strictures and perforations were subjected to segmental resection with two end stoma. This was performed, in 12 (12%) cases and primary repair and anastomosis in 9 (9%). Only washouts and laparostomy was performed in 5 (5%) and adhenolysis in 4(4%) cases. Redo surgery was required in 44 (44%). The overall mortality was 18%.

This study concludes that abdominal TB patients usually present late with complications in emergency surgery because of diagnostic delay, having a high morbidity and mortality.

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Introduction

TB is a global health problem, with approximately one third of the world population being infected with TB, 8-9 million of new cases are diagnosed annually and two million die each year from this disease.[1] Pakistan ranks fifth amongst high burden TB countries in the world. It accounts for 61% of the TB burden in the WHO Eastern Mediterranean region.[2] Twenty two high burden countries account for 80% of total global TB which includes Pakistan.[3] Commonly TB is present in the developing countries due to poor sanitation, poverty, illiteracy, overcrowding, and malnutrition.[4] Abdominal TB includes the infection of gastrointestinal tract, peritoneum, mesentery, abdominal lymph nodes, liver spleen and pancreas.[5] 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.[6] The aim of this study was to highlight the spectrum of abdominal TB in emergency surgery and its outcome in our setup. Rationale of this study was to highlight the late presentation of abdominal TB patients in emergency surgery with sepsis, and to take steps to avoid the diagnostic delay to reduce the morbidity and mortality.

Methods and Results

This was a prospective cross-sectional proforma based study conducted from March 2008 - March 2014 in the surgical unit VI of DUHS & CHK Pakistan. This is a tertiary care centre in the public sector of Karachi. Only adult patients confirmed with abdominal tuberculosis were selected for the study .Patients -included had a diagnosis of abdominal tuberculosis with or without the history of pulmonary TB. All patients received in emergency were optimized and treated as a case of acute abdomen. Investigations included complete blood picture, blood urea and creatinine, serum electrolyte, and hepatitis screening Ultrasound abdomen and pelvis, plain X-ray abdomen in erect posture was done in patients where indicated. All patients received fluid and electrolyte support, nasogastric decompression, catheterization and antibiotics. Anti-tubercular therapy was

Table:

S no	Variable	No	%
I	**Clinical diagnosis**		
1	Peritonitis	61	61
2	Intestinal obstruction	24	24
3	Ileocaecal mass	7	7
4	Enterocutaneous fistula	5	5
5	Sub-acute intestinal obstruction	3	3
II	**Primary Surgical treatment**	**85**	**85**
1	Stoma	34	34
2	Limited right hemi colectomy & stoma	14	14
3	Limited right hemi colectomy & anastomosis	7	7
4	Segmental resection with stoma	12	12
5	Primary repair and anastomosis	9	9
6	Washout &laparostomy	5	5
7	Adhenolysis	4	4
8	No surgery	15	15
III	**Peroperative findings**	**85**	**85**
	Small bowel	**56**	**56**
	Ileum	**36**	**36**
1	Multiple Ileal stricture	13	13
2	Multiple Ileal stricture with perforation	10	10
3	Multiple ileal perforation	8	8
4	Single ileal perforation	5	5
	Jejunum	**12**	**12**
1	Jejunum stricture	6	6
2	Multiple Jejunal perforation	3	3
3	Single jejunal perforation	3	3
	Both ileum & jejunum	**8**	**8**
1	Adhesion	4	4
2	Ileum &jejunum perforation with stricture	3	3
3	Ileum &jejunum perforation	1	1
	Ileocaecal	**13**	**13**
1	Granulomatous mass	8	8
2	perforation & stricture	3	3
3	Fistulae	2	2
	Large bowel	**10**	**10**
1	Multiple large bowel ulcer, stricture and perforation	9	9
2	Rectum	1	1
	Both small & large bowel	**6**	**6**
1	Perforations	3	3
2	Perforations & strictures	2	2
3	Plastered abdomen with tubercles all over	1	1
IV	**Re do surgery**	**44**	**44**
1	Laparostomy& washout on alternate days days & closure	26	26
2	Washout and deep tension suturing		
3	Stoma re fashioning for retraction & prolapse	13	13
V	**Morbidity**		
1	Wound infection	43	43
2	Wound dehiscence	20	20
3	Incisional hernia	20	20
4	Burst abdomen	13	13
5	Stoma retraction	3	3
6	Anastomosis leak	2	2
7	Stoma prolapse	2	2
	Mortality	**18**	**18**

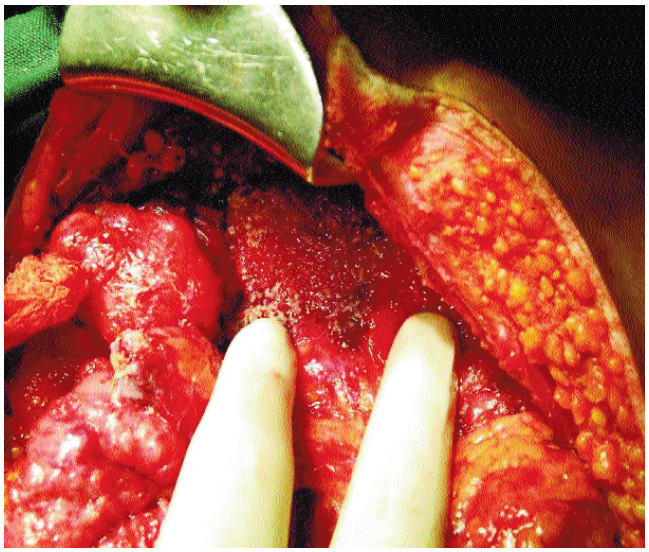

Figure-1: Plastered abdomen with tubercles all over.

Figure-2: Enterocutaneous fistula.

started on the operative findings empirically without waiting for the histopathology reports. Diagnosis was confirmed by histopathology.

Patients presenting with sepsis, had an abdominal washout and stoma formation. Laparotomy was performed in toxic patients. All patients operated in emergency were managed in the ward or ICU accordingly. Patients with burst abdomen were given an emergency wash out and laparotomy or abdominal washout with deep tension sutures. Patients with laparotomies need multiple wash outs, daily or on alternate days to decrease the sepsis. One of the senior surgeon on duty was responsible for surgical procedures to avoid complications.

Proforma was filled at the time of discharge or after exitus and further morbidity factors if encountered were added during follow-ups of patients in the Out Patient Department.

Total numbers of patients studied were hundred, 45 males and 55 females. Mean age was 30±7.29 years, with an age range of 16-45 years Significant association was found between peritonitis and mortality, Observed value of Chi square test (x2) test was 5.9 with level of significant p value $\leq$ 0.05.

Majority of patients, 90%, presented through emergency, 6% were referred and 4% through OPD. Common presenting symptoms were abdominal pain 72%, weight loss 62%, low grade evening rise temperature 38%, and ascites 42%. Average duration of symptoms was 4 months before presentation. Emergency exploratory laparotomy was performed in 85 (85%) patients diagnosed with acute abdomen clinically, peritonitis 61 (61%) and acute intestinal obstruction in 24 (24%).Stoma in 34 (34%) and abdominal washouts in 5 (5%) were the best minimum surgical procedures performed in toxic patients to save the lives in emergency. Majority of patients 82(82%) were saved through emergency surgery. Both morbidity and mortality were high due to the late presentation with sepsis, faecal peritonitis or intestinal obstruction.

The Table shows the details of the patients, procedures undertaken, findings at surgery and the end result of the study.

Discussion

Abdominal TB commonly presents in young females.[7] TB can involve any part of the body but abdomen is the second common site after lung.[7] Most commonly TB affects the small bowel ileum followed by ileocaecal region. Large bowel TB patients may present with ulcers, stricture, perforation and granuloma.[7] Inspite of advances in the diagnostic modalities the diagnosis of abdominal TB is still a dilemma due to its nonspecific vague clinical features in the early stages. Late presentation is accompanied with complications as perforation or obstruction which have a high morbidity as also shown by another study.[8] Emergency exploratory laparotomy is required for these patients, stoma is the best minimum procedure in unstable patients to save the lives, while limited right hemi colectomy with primary anastomosis, or right hemi colectomy with two end stoma for ileocaecal TB, segmental resection with end to end anastomosis, adhenolysis and primary repair require in few patients.[9] ATT requires a combination regimen of injectable streptomycin and other oral anti-TB drugs, Rifampicin, pyrazinamide, Isoniazid, Ethambutol and pyridoxine for a period of 12 months.[10]

Conclusion

Abdominal TB patients present very late in emergency surgery, with complications having a high morbidity and mortality due to faecal peritonitis. Minimum Surgery, stoma and abdominal washout plays a fundamental role in saving the lives along with anti-TB treatment over a period of twelve months. Various governing bodies and organizations need to address this problem. Existing financial and social obstacle must be overcome if TB elimination is to be a reachable goal.

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Conflict of Interest: There is no conflict of interest all authors approved the final manuscript.

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