

**Original Research Article**

Laparoscopy and Laparotomy as Savior for all cases of Abdominal Tuberculosis

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Dr Shamim Khurrum AzmiEmail: drshamimka@gmail.com, Mobile no: 9939980820**Abstract**

Aim: To establish that laparoscopy is important modality of diagnosis and treatment in all cases of abdominal tuberculosis and can be life saving in certain grave and complicated cases.

Design: Prospective study done at department of surgery, Darbhanga Medical College and Hospital, Bihar from 2011- 2015. Cases were analyzed in terms of demography, clinical features, investigations, operative treatment, and outcome.

Materials and Methods: 80 patients with abdominal tuberculosis having age between 10yrs to 80 yrs age were included in the study. Among these there were 55 % (n=44) male patients and 45% (n=36) female patients with abdominal tuberculosis.

All the patients were subjected to detailed history and clinical examination followed by investigations and diagnostic laparoscopy.

Diagnostic laparoscopy was done to confirm the diagnosis. The following features seen by laparoscopy supports the diagnosis of abdominal tuberculosis:

- Ascitic fluid in Peritoneal Cavity
- Adhesions & Bands in Peritoneum
- Tubercles
- Stricture
- Enlargement of mesenteric lymph node

Histopathology: biopsy of lymph nodes was sent for histopathological examination for final confirmation of diagnosis of tuberculosis.

Management: The cases were divided into two groups:

1. Conservative: this group consisted of cases presenting with features of subacute obstruction .This group was managed by antitubercular drug treatment along with advise on diet and nutrition.
2. Operative: this group consisted of patients presenting with features of acute obstruction .This group was subjected to laparoscopy and /or laparotomy and the following operative procedures were done:

- *Conservative ileo caecal resection*
- *Ileotransverse anastomosis*
- *Strictureplasty*
- *Resection and anastomosis*
- *Simple closure of perforation*
- *Right hemicolectomy*
- *Laparotomy and biopsy*

Follow up: After recovery patients were discharged with advise on use of drugs and report for checkup after 1 month, then 3 months, then 6 months and 1 year .In follow up subjective symptoms like abdominal distension, constipation, diarrhea, anorexia and weakness were regularly monitored. Objective improvement by accessing gain in body weight, hemoglobin percent and fall in E.S.R. was considered.

Results

- 12.5% cases (n=10) improved on conservative management with antitubercular treatment along with hydration, correction of electrolyte imbalance, vitamin supplementation and nutritional support.
- Remaining 87.5% cases (n=70) had to undergo surgical intervention in form of laparoscopy or laparotomy for definitive treatment.
- Limited right hemicolectomy (ileo caecal resection) was the most common surgical procedure and done in 42.5% of cases (n=34).
- Laparoscopic adhesiolysis was done in 25% of cases (n=20) presenting with adhesions and abdominal cocoon.
- Strictureplasty was done in 12.5% cases (n=10)
- Resection and anastomosis was done in 7.5% cases (n=6) presenting with perforation and multiple adjacent strictures.

Conclusions: Laparoscopy is invaluable tool aiding in early diagnosis of abdominal and intestinal tuberculosis. In acute cases, surgical management is life saving. Limited right hemi-colectomy (ileo caecal resection) is the most commonly performed procedure with good results.

Keywords: Abdominal tuberculosis, laparoscopy, Intestinal stricture, Bowel perforation, Resection anastomosis, hemicolectomy.

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Introduction

Abdominal tuberculosis is mostly a disease of developing countries like India. It can involve the intestine, peritoneum, lymph nodes, or solid abdominal organs. Intestinal tuberculosis presents in following varieties: ulcerative, hyperplastic and cirrhotic form. The most common sites affected are terminal ileum and ileocecal junction followed by the colon and jejunum. The peritoneum is involved in following forms: - ascitic, loculated (encysted), plastic (fibrous) and purulent forms. The lymph nodes involved are mesenteric lymph nodes and retroperitoneal lymph nodes. The lymph nodes may caseate and calcify. Granulomatous lesions may be seen in liver and spleen. Disseminated abdominal form includes combined involvement of the gastro-intestinal tract, peritoneum, lymph nodes or solid viscera.

Abdominal tuberculosis presents with non-specific features and can be difficult to diagnose. The most common presenting complaints were abdominal pain and weight loss. Associated features such as ascites and necrotic nodes, if present, help in making a diagnosis. Findings of clinical examination were non-specific. The non specific but consistent findings were raised C-reactive protein and low haemoglobin levels. Mantoux test was positive in only 24% cases (n= 30). Likewise ultrasound scan and CT scan was helpful only in few cases. Diagnostic laparoscopy was most helpful in clinching the diagnosis and aiding in biopsy of lymph nodes and other deep seated lesions. Histopathology of lymph nodes was used to confirm the diagnosis.

Early diagnosis is challenging as the clinical features are non specific and there is no

confirmatory blood test or imaging modality. In such scenario, diagnostic laparoscopy plays an important role in confirming the diagnosis and helps in sampling of lymph node or other lesions for histopathological confirmation of diagnosis. Often surgical intervention is the only therapeutic option for the patients presenting with complications of abdominal tuberculosis. The present study intends to describe the demography, clinicopathological profile, various surgeries undertaken for treatment and their outcome.

Material and Methods

Material

In this study 80 cases of abdominal tuberculosis were included in the study. The cases were taken from admitted patients in department of General Surgery in Darbhanga Medical College and Hospital, Leheriasera.

Methods

All the patients were subjected to detailed history and clinical examination followed by routine investigations, then specific investigations. Details of diagnostic laparoscopy, histopathology report, antitubercular treatment and operative procedures were noted. Surgical outcome as well as complications was noted and follow up of patients was done.

Observation and Results

The study group included 80 patients with abdominal tuberculosis having age between 10yrs to 70 yrs. Among these there were 55 % (n=44) male patients and 45% (n=36) female patients with abdominal tuberculosis.

Table no -1 Showing age distribution

Age group in years	No of cases	Percentage
10-20	12	15
21-30	24	30
31-40	28	35
41-50	10	12.5
51-60	4	5
61-70	2	2.5
Total	80	100

This table shows that maximum incidence of disease is found in 20-40 yrs age group (65%).

Table no 2 Showing sex distribution

Sl. no	Sex	No of cases	Percentage
1	Male	36	45
2	Female	44	55

This table shows female preponderance of the disease.

Table no 3 Showing duration of symptoms

Duration of symptoms	No of cases	Percentage
Less than 6 months	3	4
6 months to 1 year	20	25
1 year to 1.5 year	29	36
1.5 year to 2 year	10	12.5
2 year to 2.5 year	8	10
2.5 - to 3 year	6	7.5
6 months to 1 year	4	5

This table shows that maximum number of patients reported with a duration of symptoms between 6 months to one and half years.

Table no 4 Showing the frequency of symptoms

Symptoms	No of cases	Percentage
Abdominal pain	48	60
Weakness and weight loss	12	15
Irregular bowel	10	12.5
Vomiting	6	7.5
Lump	3	3.75
Fever and night sweats	1	1.25

This table shows that pain abdomen was the commonest symptom in our series. Next most common was weakness and weight loss followed by irregular bowel.

Table no 5 Showing the frequency of different elicited signs

Signs	No of cases	Percentage
Anaemia	31	39
Abdominal distention	21	26
Tenderness in abdomen	12	15
Abdominal lump	8	10
Rigidity of abdomen	5	6
Visible peristalsis	3	4

This table shows that anaemia is present in majority of cases. Next most common presentation was abdominal distention and abdominal tenderness.

Table no 6 Showing haemoglobin levels

Hb level (gm%)	No of cases	Percentage
Less than 6	1	1.25
6	2	2.5
7	4	5
8	12	15
9	18	22.5
10	31	38.75
11	8	10
12	2	2.5
More than 12	2	2.5

This table shows that nearly all patients were anaemic.

Table no 7 Showing radiological findings**Table no 7(a)** Showing chest X-Ray findings

Sl no	Chest X-Ray findings	No of cases
1	Pleural effusion	5
2	Cavity	10
3	Healed fibrotic lesions	6
4	Hilar lymph nodes	8
5	No demonstrable sign	31
6	Not done	20

This table shows that evidence of Koch's was seen in only 29 cases.

Table no 7(b) Showing Plain X-Ray abdomen findings in erect posture

Sl no	Findings	No of cases
1	Multiple air fluid levels	18
2	Free gas under diaphragm	18
3	Distended coils of intestine	27
4	Calcified mesenteric lymph nodes	6
5	Hazy appearance	8
6	No obvious finding	3

This table shows that Plain X-Ray abdomen showed positive findings in 96% cases (n=77).

Table no 8(a) Showing barium meal follow through X-Ray (done in 50 cases)

Sl no	Findings	No of cases
1	Dilatation and stasis	28
2	Filling defect	12
3	Pulled up caecum	6
4	No demonstrable sign	4

This table shows positive findings in 46 cases.

Table no 8(b) Results of barium enema X-Ray (done in 12 cases)

Sl no	Findings	No of cases
1	Positive	4
2	Negative	8

Table no 9 Results of ultrasound

Sl no	Findings	No of cases
1	Presence of lump	34
2	No finding	31
3	Not done	15

Table no 10 Showing different sites of tubercular lesion

Sl no	Site of lesion	No of cases	Percentage
1	Stomach and duodenum	0	0
2	Ileum	44	55
3	Ileocaecal region	24	30
4	Mesenteric lymph node	7	8.75
5	Colonic stricture	4	5
6	Jejunum	1	1.25

This table shows that most commonly involved site is ileo caecal region.

Table no 11 Showing different types of tubercular lesion

Sl no	Type of lesion	No of cases	Percentage
1	Stricture	21	26.25
2	Hyperplastic	18	22.5
3	Ulcerative	8	10
4	Tuberculous perforation	16	20
5	Tuberculous lymphadenitis	10	12.5
6	Stricture with omental caking	2	2.5
7	Miliary tuberculosis	4	5
8	Plastering of intestine and peritoneum	1	1.25

This table shows that most common lesion is stricture followed by hyperplastic lesion. Tuberculous perforation is also common.

Table no 12 Showing different types of surgeries done

Sl no	Name of surgery	No of cases	Percentage
1	Conservative ileocaecal resection or limited right hemicolectomy	32	40
2	Right hemicolectomy	13	16.25
3	Ileo transverse anastomosis	12	15
4	Stricturoplasty	16	20
5	Simple closure of perforation	3	3.75
6	Resection and anastomosis	2	2.5
7	Conservative treatment	2	2.5

This table shows that most common surgery done was conservative ileocaecal resection or limited right hemicolectomy.

Table no 13 Showing different postoperative complications (seen in 38 cases only)

Sl no	Postoperative complications	No of cases	Percentage
1	Wound infection	11	29
2	Diarrhea and loose motion	4	11
3	Gaping of wound	3	8
4	Faecal fistula	5	13
5	Postoperative ileus	6	16
6	Shock	1	3
7	Bronchopulmonary complications	7	17
8	Death	1	3

This table shows that postoperative complications were seen in 38 cases only. The most common complication was wound infection.

Table no 14 Showing postoperative stay in hospital

No of days	No of cases	Percentage
0-7 days	28	35
8-10 days	40	50
11-14 days	8	10
15-20 days	2	2.5
21-30 days	2	2.5

This table shows that duration of hospital stay for majority of patients was between one to two weeks.

Summary and Conclusion

- Incidence of intestinal tuberculosis is maximum in age group 20 -40 years
- Incidence is slightly more in females than in males (not statistically significant)
- Maximum number of patients reported with a duration of symptoms between 6 months to one and half years.
- Pain abdomen was the commonest symptom in our series. Next most common was weakness and weight loss followed by irregular bowel. This table shows that anaemia is present in majority of cases. Next most common presentation was abdominal distension and abdominal tenderness.
- This table shows that
- Nearly all patients in this series were anaemic.
- Evidence of Koch's was seen in only 36 percent cases (n=29).
- Plain X-Ray abdomen showed positive findings in 96% cases (n=77).
- Barium meal follow through X-Ray which was done in 50 cases showed positive findings in 46 cases.
- Barium enema X-Ray which was done in 12 cases showed positive findings in only 4 cases.
- Ultrasound which was done in 65 cases showed positive finding of abdominal lump in 34 cases.
- Most commonly involved site of intestinal tuberculosis is ileo caecal region.
- Most common lesion is stricture followed by hyperplastic lesion. Tuberculous perforation is also common.
- This table shows that most common surgery done was conservative ileocaecal resection or limited right hemicolectomy.
- Postoperative complications were seen in 38 cases only. The most common complication was wound infection.
- Duration of hospital stay for majority of patients was between one to two weeks.

- Follow up was possible for 69 patients for 6 months and 57 patients for one year. In all of them ESR was gradually declining to normal. They were kept on antitubercular drugs and proper diet and supplements for general health and correction of anaemia.

Hence we see that laparoscopy is invaluable tool aiding in early diagnosis of abdominal and intestinal tuberculosis. In acute cases, surgical management is life saving

Conflicts of Interest

The authors declare that there is no conflict of interests regarding the publication of this paper.

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