

A prospective study of demographic distribution, clinical presentation and sites of involvement in intestinal tuberculosis in a tertiary care hospital

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Abstract

Introduction: Tuberculosis can affect any part of the gastrointestinal tract from the mouth to the anus. The sites affected most often are the ileum, proximal colon and peritoneum.¹ The incidence of tuberculosis of the small intestine is high in developing countries and has increased in developed countries because of the acquired immunodeficiency syndrome. **Materials and methods:** The study comprised of total 50 patients of intestinal tuberculosis, carried out at Department of Surgery, Mediniray Medical College, Palamu, Jharkhand, during the period from August 2019 to July 2020. Patients with abdominal pain suspected of intestinal tuberculosis and proven by histopathology, done after surgical intervention, were included in the study. Patients diagnosed after surgery and also without surgery based on clinical radiological and ascitic fluid ADA were also included in the study. Informed consent of the patients and patients' parents (if patient is younger than 18 years), were taken and approval from the local ethical committee was obtained regarding the study. **Results:** More than 50% patients were between 11 to 30 years of age. Males and females equally affected by the condition. Fever, anorexia, vomiting and weight loss are common symptoms along with abdominal pain being present in all patients. Ileum was most commonly affected part of the intestine, while rectum was never seen to be involved in any cases in the study. **Conclusion:** As the condition affects children and adolescent more frequently, prevention, early diagnosis and proper medical treatment in this age group are very important factors to reduce the disease burden to society. As ileum was most commonly affected part, its surgical removal may lead to problems relating with malnutrition and needs long term follow up and further studies to know the long term consequences of surgery for the condition.

Key Words: Tuberculosis, small intestine, Fever, anorexia, vomiting.

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Introduction

Tuberculosis can affect any part of the gastrointestinal tract from the mouth to the anus. The sites affected most often are the ileum, proximal colon and peritoneum[1]. The incidence of tuberculosis of the small intestine is high in developing countries and has increased in developed countries because of the acquired immunodeficiency syndrome[2].

Intestinal tuberculosis probably occurs due to reactivation of a dormant focus. Suppression of host defences by conditions such as malnutrition, weight loss, alcoholism, diabetes, chronic renal failure, immunosuppression, AIDS, etc, increases the risk of such reactivation[3]. Intestinal tuberculosis has always been an interesting subject to medical world. To explore it rightly by bedside, the clinicians have tried hard to define a clinical syndrome, the radiologists have developed a system of shadows to help arriving at a conclusion and pathologists have scrutinized thousands of specimens in autopsy room[3]. Surprising and quite painful fact to be faced is that the disease known from prehistoric times stands high in prevalence and refusing to defy to ever growing modern medical science. Developing countries like India, where all the

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predisposing factors like malnutrition, poor hygiene, and lack of health education is present, tuberculosis is still growing and causing burden on health budget with high morbidity and significant mortality[4]. A cumulative efforts from all branches of medicine targeting all facets of this disease can help world to get rid of it. Chemotherapy forms the mainstay of the treatment but due to resurgence of multi drug resistant tuberculosis, advanced stages and complications are seen for which surgery is ray of hope towards cure[5]. The purpose of this study is to observe the age and sex wise distribution, clinical presentations and different sites of involvement of intestinal tuberculosis in this part of Jharkhand state.

Materials and methods

The study comprised of total 50 patients of intestinal tuberculosis, carried out at Department of Surgery, Mediniray Medical College, Palamu, Jharkhand, during

the period from August 2019 to July 2020. Patients with abdominal pain suspected of intestinal tuberculosis and proven by histopathology, done after surgical intervention, were included in the study. Patients diagnosed without surgery based on clinical radiological and ascitic fluid ADA were also included in the study. Informed consent of the patients and patients' parents (if patient is younger than 18 years), were taken and approval from the local ethical comity was obtained regarding the study. Each patient was studied in detail with relevant clinical history, examinations and laboratory investigations like CBC with ESR, Montoux test, total proteins, sputum for acid fast bacilli, Mantoux test, ascitic fluid assay for protein, adenosine deaminase (ADA) and CBNAAT and radiological investigations like chest and abdominal x ray, ultra sonography of the abdomen, barium meal, CT abdomen as per requirement. Then operative details and per operative findings were recorded carefully.

Results

Table 1: Age and sex wise distribution of the cases

Age Group	No of patients	Percentage
11-20	14	28
21-30	15	30
31-40	9	18
41-50	6	12
51-60	3	6
61-70	3	6
Total	50	100
Sex		
Male	25	50
Female	25	50
Total	50	100

More than 50% of patients lies in the age group of 11 to 30 years. Distribution of the disease decrease at extreme of ages. Youngest patient is of 12 yrs and oldest being 70 years. Male and female patients are equally affected.

Table 2: Frequency of clinical features

Symptoms	No of patients	Percentage
Abdominal pain	50	100
Fever	44	88
vomiting	37	74
Diarrhea	5	10
constipation	27	54
lump	5	10
Weight loss	29	58
Anorexia	41	82
Other	4	8

Among all symptoms abdominal pain was presenting complaint of all patients. Followed by fever and anorexia. Although lump is less common it denotes advanced disease.

Table 3: Site wise involvement of intestine

Site	No of patients	Percentage
Duodenum	0	0
Jejunum	4	8
Ileum	25	50
Caecum	6	12
I.C.Junction	8	16
Ascending colon	3	6
Transverse colon	1	2
Descending Colon	1	2
Sigmoid Colon	0	0
Rectum	0	0
Ileum and jejunum	2	4
Total	50	100

Ileum was the commonest site of involvement for intestinal tuberculosis. Followed by I.C. junction. Rectum was never involved in the study.

Discussion

In the present study 50 case of intestinal tuberculosis were studied and followed up. This study was performed to know about age and sex wise distribution, various modes of presentations and frequency of involvement of different sites of intestine by tubercular bacilli. Patients were examined, investigated and per operative data collected as per proforma. In age wise distribution, 58% of patients were below 30 years of age. Highest incidence was seen among the age group of 21-30 years. 30% of patients belonged to this group and lowest being 12 years. This indicates that adolescent and young adults are most commonly affected. A higher index of suspicion might account for the detection of tuberculosis in the younger age group in developing countries like India[2]. No gender difference found for occurrence of the condition in this study, although in other studies female: male ratio is 2:1. Among the frequency of the symptoms abdominal pain is the commonest symptom and it is the presenting feature of all patients in present study. This is followed by fever (88%) and anorexia (82%). Palpable abdominal lump is less common finding, although it denotes advanced disease. The condition can mimic any diseases affecting the gastrointestinal tract and may present with very different symptoms, so a high index of suspicion is required[5]. Intestinal tuberculosis accounts for 15% of all intestinal obstructions and 5 to

7 % of all gastrointestinal perforations, which are the main indications for surgery. Tuberculosis still

constitutes the most important single aetiological factor in ulceroconstrictive lesions of the intestine in India.4 Site wise distribution shows that terminal ileum is the commonest part of intestine involved (60%) followed by ileocaecal junction (16%).[7,8] Although in other studies, the commonest site for tuberculous involvement of the bowel was the ileocaecal region [6,9].

Intestinal tuberculosis can occur either primarily or secondary to a tuberculous focus at a different site. Primary intestinal tuberculosis caused by the bovine strain has become rare with the widespread pasteurization of milk; secondary intestinal tuberculosis is more common and is usually due to ingestion of infected sputum. The tubercle bacillus is protected against digestion in the stomach by its fatty capsule, and it therefore enters the small bowel, infecting the ileum (ileocaecal area), jejunum, and duodenum, in decreasing order of frequency. The abundance of lymphoid tissue, stasis, and minimal digestion of the bacteria are possible reasons for the higher incidence of tuberculosis in the ileum[10].

Conclusion

Prevention is better than cure” is also applicable to tuberculosis and aggressive prevention can decrease occurrence significantly. Primordial prevention like B.C.G. vaccination and health education, primary preventions like drinking boiled, pasteurized milk and

maintaining good personal hygiene, and secondary preventions like early detection and quick treatment is mainstay of control of the condition. Control and proper management of alcoholism, diabetes, chronic renal failure, immunosuppression, AIDS along with timely diagnosis and treatment based on a high index of suspicion in areas and in populations in which tuberculosis is common, will also help in decreasing the incident of the condition. Recovery from disease is good in all the patients who are taking ATT regularly.

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