



Socio-demographic Characteristics of Surgically Resected Histopathological Confirmed Intestinal Tuberculosis Patients attended at a Tertiary Care Hospital in Dhaka City

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Abstract

Background: Intestinal tuberculosis can occur in different socio-demographic characteristics. **Objective:** The purpose of the present study was to see socio-demographic characteristics of surgically resected histopathological confirmed intestinal tuberculosis patients. **Methodology:** This cross-sectional study was conducted at the Department of surgery, Dhaka Medical College hospital, Dhaka from July 2005 to December 2007 for a period of two and a half year. Purposive sampling was followed as per inclusion and exclusion criteria. The patients were evaluated based on history, physical examination, laboratory investigations and other relevant investigations. **Result:** Total numbers of cases in this series were 50 cases. The youngest patient of the series was 15 years and the oldest was 60 years. The average age of the patients was 34.5±12.6 years. Out of 50 patients 64.0% cases were male and 36.0% cases are female with a male to female ratio 1.77:1. Most of the patients were farmer which was 52.0% cases. In this study 37(74.0%) cases came from lower socio-economic condition. Majority cases were in poor nutritional status (84.0%) and came from rural area (56.0%). In this study 40.0% patients were vaccinated and 50.0% cases were smoker. **Conclusion:** In conclusion adult middle age male farmers with low-socioeconomic condition patients are most commonly suffering from intestinal tuberculosis. [*Bangladesh Journal of Infectious Diseases, June 2021;8(1):7-11*]

Keywords: Socio-demographic characteristics; histopathological confirmed; abdominal tuberculosis

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Introduction

Tuberculosis is a chronic debilitating disease¹. There is no specific symptoms of intestinal tuberculosis. Nonspecific features such as loss of appetite, gradual loss of weight, malaise, unexplained fever all facts which should raise the suspicions of tuberculosis². However the symptoms of anorexia, abdominal pain and diarrhoea or constipation in patient with pulmonary tuberculosis are strongly suggestive of tuberculosis enteritis³.

The most frequent age of onset is 20 to 40 years with slightly greater predominance in women⁴. The reason lies in that the females especially from the rural areas are comparatively neglected than the males regarding their health and nutritional status. Patient of intestinal tuberculosis may present with the different clinical features⁵. Majority of the patient presents with vague abdominal pain commonly located in right lower quadrant. However, it may experience in the periumbilical regions. Vomiting or defecation frequently relief, the distress especially the later if colon is involved. Pain is colicky in nature when partial obstruction exist, but usually pain is dull or diffuse in character; furthermore, the pain is probably due to spasm of bowel or involvement of peritoneum and mesenteric nodes⁶.

Diarrhoea in intestinal tuberculosis patient are often similar those in non-specific terminal regional enteritis and the frequency rarely exceeds 3 to 6 times daily⁷. A secondary type of malabsorption may develop in some cases depending on the site and extent of involvement of intestine by the disease, which may give rise to steatorrhoea due to reduced absorptive surface, bacteria over growth in stagnant loop⁸.

Sometimes diarrhoea may alternate with constipation. This present study was undertaken to see socio-demographic characteristics of surgically resected histopathological confirmed intestinal tuberculosis patients.

Methodology

This descriptive cross-sectional study was conducted at the Department of Surgery at Dhaka Medical College Hospital, Dhaka, Bangladesh from July 2005 to December 2007 for a period of two and a half year. Purposive sampling technique was followed as per inclusion and exclusion criteria. The patients were evaluated based on history, physical examination, laboratory investigations and

other relevant investigations. All patients were treated either surgically followed by anti-tubercular therapy. The operations were performed either by a consultant surgeon or a senior resident under the direct supervision of a consultant surgeon. Intraoperative tissue biopsy was taken for histopathological studies; a portion of the tissue was fixed in 10 per cent formalin; routine processing was done as per standard operative procedures and stained with haematoxylin and eosin. Presence of caseating granulomas surrounded by epithelioid cells, lymphocytes, plasma cells and giant cells were diagnostic of tuberculosis.

Post-operatively patients were kept nil orally till return of bowel sounds and at that time nasogastric tubes were removed. Final diagnosis and postoperative treatment was dependent on the operative findings and histopathological confirmation. Those found to be tuberculous were started on anti-tuberculosis therapy according to the National Tuberculosis and Leprosy Programme (NTLP) in Bangladesh¹. The anti-tuberculosis therapy given included Isoniazid, Rifampicin, Pyrazinamide, Ethambutol and Streptomycin. All patients had been managed by medical and surgical teams. Data on each patient were entered into a pro forma prepared for the study. The study variables included socio-demographic like age and sex, level of education, occupation and area of residence.

The statistical analysis was performed using statistical package for social sciences (SPSS) version 23.0 for Windows (SPSS, Chicago IL, U.S.A). The mean with standard deviation and ranges were calculated for continuous variables whereas proportions and frequency tables were used to summarize categorical variables.

Result

The present study included 50 cases of abdominal tuberculosis admitted in different units of surgery in Dhaka Medical College and Hospital and BSMMU from July 2005 to Dec. 2007. Total numbers of cases in this series were 50. The youngest patient of the series was 15 years and the oldest was 60 years. The average age of the patients was 34.5 ± 12.6 years.

The highest incidence of abdominal tuberculosis was in the age group of 31 to 40 years and 36.0% (n=18) of total. The age group 21 to 30 years was the next common and 30% of the total. The age group of 51-60 years had the lowest incidence (8%) (Table 1).

Table 1: Distribution of Patient by Age (n=50)

Age Group	Frequency	Percent
0 to 20 Years	7	14.0
21 to 40 Years	33	66.0
41 to 60 Years	10	20.0
Total	50	100.0

Out of 50 patients 64.0% were male and 36.0% are female with a male to female ratio 1.77:1 (Table 2).

Table 2: Distribution of Patient by Sex (n=50)

Gender	Frequency	Percent
Male	32	64.0
Female	18	36.0
Total	50	100.0

Most of our patients were farmer which was 52.0% cases followed by housewife and service holder which were 18(36.0%) cases and 6(12.0%) cases respectively (Table 3).

Table 3: Distribution of Patient by Occupation (n=50)

Occupation	Frequency	Percent
Farmer	26	52.0
Service-holder	6	12.0
Housewife	18	36.0
Total	50	100.0

In this study 37(74.0%) cases came from lower socio-economic condition. However, from middle and lower socio-economic condition 11(22.0%) cases and 2(4.0%) cases were found (Table 4).

Table 4: Distribution of Patient by Socio-Economic Status (n=50)

Socio-Economic Status	Frequency	Percent
Upper	2	4.0
Middle	11	22.0
Lower	37	74.0
Total	50	100.0

Majority cases were in poor nutritional status (84.0%). However, there were 8(16.0%) cases were from average nutritional status (Table 5).

Table 5: Distribution of Patient by Nutritional Status (n=50)

Nutritional Status	Frequency	Percent

Average	8	16.0
Poor	42	84.0
Total	50	100.0

In this study 56.0% patient came from rural area and 44.0% cases from urban area (Table 6).

Table 6: Distribution of patient by Residence (n=50)

Residence	Frequency	Percent
Urban	22	44.0
Rural	28	56.0
Total	50	100.0

In this study 40.0% patients were vaccinated and the rest of 30(60.0%) cases were reported as unvaccinated (Table 7).

Table 7: Distribution of Patient by Vaccination (n=50)

Vaccination Status	Frequency	Percent
Vaccinated	20	40.0
Un-vaccinated	30	60.0
Total	50	100.0

In this study 50.0% patient were reported that they were smoker and the rest 50.0% cases were non-smoker (Table 8).

Table 8: Distribution of Patient with Personal Habit (n=50)

Personal Habit	Frequency	Percent
Smoker	25	50.0
Non-smoker	25	50.0
Total	50	100.0

Discussion

Tuberculosis is a common and major health problem, especially in developing countries like Bangladesh¹. The ignorance, poverty, overcrowding, poor sanitation and malnutrition are the main reason of this disease which are more prevalent in these countries⁴. World Health Organization (WHO) has declared TB as global health of emergency and is the most important communicable disease worldwide. Approximately one third of the world population is infected with tuberculosis and about three millions die each year from this disease. It has been reported that intestinal TB is the most predominant form of abdominal TB and is accounted for 49.6% cases⁸.

The majority of patients have involvement in ileocaecal region. Intestinal type of abdominal tuberculosis is ranged from 50.0% to 78.0% cases⁹. It is postulated that ileocaecal involvement is due to either physiological stasis, large surface area of this part of the intestine, complete digestion of food and abundant lymph nodes in the region¹⁰⁻¹⁴.

In this present study abdominal tuberculosis can occur at any age. The mean age in this study is 34.5 years. Majority of patients (36.0%) are 31 to 40 years of age group; however, Rahman et al¹⁰ showed maximum age group 11 to 30 years (64.0%) and Hossain et al¹² study 21 to 40 years of age group (60%). There was a predominance of male 64.0% and male:female ratio 1.77:1. Sex incidence was found in Hossain et al¹² (M:F=1.28:1), in Hasan et al¹³ (M:F=93:41 or 2.26:1). In this study 52.0%, 36.0% cases are farmer and housewife respectively, however, Hasan et al¹³ have found in 32.0% cases and 44.0% cases respectively. In this series 74.0% came from lower socioeconomic group whereas Hasan et al¹³ have found in 80.0% cases. Tuberculosis is more common in rural area. This study has shown 56.0% from rural area and 44.0% cases from urban that are supported by Prokash and Tandor¹⁴. Smoking was also contributory factor in tuberculosis. In this study 50% patients were smoker whereas 22.5% cases in Karim¹⁶ study.

Symptoms vary in different country in different socioeconomic condition. In Indian study it varies 6 months to 6 years¹³. In British Island among the immigrants the duration of symptom has been found in 6 months to 6 years¹⁴. In this study 3 months to 20 months due to probably acute presentation of patient. Nearly all patients complains of gradual weight loss. With development of tuberculous enteritis anorexia is inevitable and also due to inflammatory process and stasis by partial obstruction also contribute weight loss as the absorption of food material is impaired. Patient with intestinal tuberculosis may present with symptoms due to systemic manifestation of tuberculosis like fever, weakness, Anorexia, night sweat. Ulceration of small bowel results in abdominal discomfort, malabsorption, perforation of gut, and rarely haemorrhage⁷. Patient may present with features of intestinal obstruction due to hyperplastic lesion like stricture, hyperplastic granuloma and adhesion. Patient may complain ill-defined lump in right lower abdomen. Per rectal bleeding due to mucosal trauma caused by scybalous stool traversing stricture segment¹¹. Patient may present with anal discharge and perianal swelling and multiple perianal fistula 24.

Due to extent of disease to the adjacent structure patient may presents, Loculated or free Ascites due to involving peritoneum, Single or multiple masses and may cause matting of intestinal loops due to spread to the lymph node. Amenorrhoea or tubo-ovarian masses are produced by extension of disease to the pelvic organ in female. Patients may develop internal or external fistula. If enterovesical fistula develops. Patients complains passage of air and dilute faeces per urethra. In the female enterovaginal fistula may develop. In addition patient features may be produced by presence of pulmonary tuberculosis like haemoptysis¹³.

The majority of the patients of intestinal TB have symptoms of more than 6 months duration at the time of presentation. The reasons for late presentation in this study may be attributed to the fact that the diagnosis of abdominal TB in its initial stages is usually difficult due to vague and non-specific symptoms as a result patients remain undiagnosed and subsequently present late with complications such as intestinal obstruction and bowel perforation with peritonitis⁹. Late presentation in this study may also be attributed to lack of accessibility to health care facilities, lack of awareness of the disease as a result some patients with tuberculous intestinal obstruction may decide to take medications in the pre-hospital period with hope that the symptoms will abate¹⁰. It is also possible that some clinicians managing the patients initially may not have considered as a possible diagnosis. In resource-poor countries like Bangladesh, difficulties in diagnosis of abdominal TB, patient transfer, and inadequate medical treatment often result in delayed presentation to a hospital¹⁴.

Conclusion

In conclusion most of the intestinal tuberculosis patients are adult patients in the middle age group. Considering the gender, male is more predominant than female. Furthermore, farmers are the most vulnerable occupation in the causation of intestinal TB. Again the low-socioeconomic condition patients are most commonly suffering from intestinal tuberculosis. Further large scale study should be carried out in country wide.

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