



Rate of Incidental Finding of Intestinal Tuberculosis in Preoperatively Unsuspected Laparotomy: Experience of 300 Cases in Bangladesh

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Authors' contributions

This work was carried out in collaboration between all authors. Author MMR designed the study. Author MAY performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors MMR and YA managed the analyses of the study. Authors MMUM, SMAU, MZZR and MTI have managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Background: Detection of intestinal tuberculosis is very crucial for the management of the patient.

Objective: The purpose of the present study was to find out the incidence of intestinal tuberculosis in clinically unsuspected laparotomies.

Methodology: This cross-sectional study was conducted in different units of the Department of Surgery at Dhaka Medical College Hospital, Dhaka from March 2002 to March 2004 for a period of two (2) years. Purposive sampling was done according to availability of the patients and strictly considering the inclusion and exclusion criteria. Patients with no suspicion about pulmonary as well as intestinal tuberculosis, history of cough & haemoptysis, no history of antitubercular drug taken, diagnosed as other than tuberculosis, per operative suspicion raised by any one or more of followings criteria like enlarge lymph nodes in mesentery, omental masses, ileocaecal masses, suspicious growth in ileum, omental thickening, perforation suspected by tuberculosis were selected as study population. Biopsy was taken from suspicious lesions. Histopathology was confirmed the granulomatous lesion. Patients with known case of tuberculosis, suspicion about pulmonary tuberculosis, history of cough & haemoptysis, previously treated with antitubercular drugs and chest X-ray with suspicion of pulmonary tuberculosis were excluded from this study.

Results: A total number of 300 patients under laparotomy were recruited for this study after fulfilling exclusion and inclusion criteria of which 38 positive cases were found in the study with a percentage of 12.7%. Maximum affected age group was 21 to 30 years which was 16(42%) cases. In all histologically positive cases granulomatous inflammation were found in 12(31.6%); both granuloma & caseation necrosis was reported in 719(50.0%) cases; furthermore, with this Langhan's giant cell, caseation necrosis were also found in 7(18.4%) cases.

Conclusion: In conclusion the incidence of intestinal tuberculosis is very high among the preoperatively unsuspected laparotomy patients.

Keywords: Incidence; tuberculosis; unsuspected; laparotomy.

1. INTRODUCTION

Tuberculosis remains major health problem throughout the world [1]. In Bangladesh yearly 300,000 people become sick and 70,000 people die due to Tuberculosis [2], so it is bare emergency to stop the process. Pulmonary tuberculosis is comparatively easy to identify; however, intestinal tuberculosis is a bit difficult to diagnose due to insidious and nonspecific presentation. High degree of suspicion is needed for the diagnosis and treatment of the intestinal tuberculosis [3]. When a patient present with abdominal pain and distention, loss of weight, constipation, diarrhoea or alteration of bowel habit, painless lump in the right iliac fossa the physician or surgeon should suspect enteric tuberculosis before any other diagnosis in the context of our country [4].

Newer modalities of diagnostic aids like laparoscopy, CT scan of the abdomen can be helpful for easy diagnosis; however, it is still impossible in the context of the present socioeconomic condition in poor country like Bangladesh. Currently developed serological methods and ascitic fluids study helps early diagnosis of the enteric tuberculosis [5]. Early

diagnosis is very much essential to avoid unnecessary operation. A full course of anti-tubercular therapy is the primary treatment of tuberculosis. Surgery should be reserved for the complications [6].

This study was undertaken to find out the incidence of intestinal tuberculosis cases among the patients with preoperatively diagnosed other than tuberculosis, however, when suspicion arises per-operatively by enlarged lymph nodes, omental masses, ileocaecal masses, thickening of ileum and omentum and biopsy taken from suspicious lesions.

2. METHODOLOGY

This cross-sectional study was conducted in different units of the Department of Surgery at Dhaka Medical College Hospital, Dhaka from March 2002 to February 2004 for a period of two (2) years. Purposive sampling was done according to availability of the patients and strictly considering the inclusion and exclusion criteria. Patients with no suspicion about pulmonary as well as intestinal tuberculosis, history of cough and haemoptysis, no history of antitubercular drug taken, diagnosed as other

than tuberculosis were included as study population. Known cases of intestinal tuberculosis were excluded from this study. Ultrasonography was performed to all the patients. The radio-imaging findings like CT-scan and X-ray findings were also evaluated. Per operative suspicion raised by any one or more of followings, enlarge lymph nodes in mesentery, omental masses, ileocaecal masses, suspicious growth in ileum, omental thickening, perforation suspected by tuberculosis were selected as study population. Laparotomy was performed due to intestinal perforation, acute and sub-acute obstruction and some other emergency surgical condition. Biopsy was taken from suspicious lesions. Histopathology was confirmed the granulomatous lesion. Patients with known case of tuberculosis, suspicion about pulmonary tuberculosis, history of cough and haemoptysis, previously treated with antitubercular drugs and chest X-ray with suspicion of pulmonary tuberculosis were excluded from this study.

3. RESULTS

A total number of 300 patients under laparotomy were recruited for this study after fulfilling exclusion and inclusion criteria of which 38 positive cases were found in the study with a percentage of 12.7% (Table 1).

Table 1. Incidence of tubercular patients in unsuspected laparotomy (n=300)

Intestinal Tuberculosis	Frequency	Percentage
Present	38	12.7
Absent	262	87.3
Total	300	100.0

Maximum were found in 21 to 30 age group which was 70(23.3%) followed by 31-40 age group and below 20 years of age group which were 62(20.66%) cases and 56(18.66%) cases respectively. Maximum affected age group was 21-30 years which was 16(42%) cases (Table 2).

Intestinal tuberculosis was more common in less than 30 years which was 20 (52.6%) cases and the rest 18(47.4%) cases were in more than 30 years (Table 3).

In all histologically positive cases granulomatous inflammation were found in 12(31.6%); both granuloma & caseation necrosis was reported in 19(50.0%) cases; furthermore, with this

Langhan's giant cell, caseation necrosis were also found in 7(18.4%) cases (Table 4).

Table 2. Age distributions of among the study population (n=300)

Age group	Frequency	Percentage
Less than 20 Years	56	18.7
21 to 30 Years	70	23.3
31 to 40 Years	62	20.7
41 to 50 Years	52	17.3
51 to 60 Years	44	14.7
More than 60 Years	16	5.3
Total	300	100.0

Table 3. Intestinal tuberculosis patients according to age group (n=38)

Age group	Frequency	Percentage
Less Than 30 Years	20	52.6
More Than 30 Years	18	47.4
Total	38	100.0

Table 4. Various histological findings in positive cases (n=38)

Histological findings	Frequency	Percentage
Only Granulomatous Inflammation	12	31.6
Granuloma, Langhan's Giant Cell & Caseation Necrosis	7	18.4
Granuloma & Caseation Necrosis	19	50.0
Total	38	100.0

4. DISCUSSION

Tuberculosis continues to be a major public health problem in the Bangladesh [1]. Yearly 300,000 people become sick and 70,000 people die due to Tuberculosis [3]. It is an alarming condition for health service, even percentage of intestinal tuberculosis in unsuspected people is not so less. The percentage of the reported cases in unsuspected 300 Laparotomies indicates the fact, which is 12.66% in 300 cases 38 cases are positive [7]. In the Annual reports of 2003 of National Tuberculosis Program,

Directorate General of Health Service, Dhaka the case detection rate was 41% [8] although some percentages of cases are detected by Non Government Organizations (NGOs). However, large portion of the cases remain undetected in the community, from where untreated cases become complicated one and in the late cases develop surgical complications like sub-acute Intestinal obstruction, acute Intestinal obstruction, perforation of gas containing hollow viscous and bleeding from GIT which are reflected in our reports [9].

Economically productive age group affected more [10,11]; in this study maximum were affected in the age group of 21 to 40 years (44.0%). This young age group is the maximum number of study population and this does not indicate that the intestinal tuberculosis is more common among this age group. However, this affected group is working in the community and is getting sick frequently; therefore this age group comes to the hospital for the seeking of treatment. Maximum were found in 21 to 30 age group which was 70(23.3%) followed by 31 to 40 years of age group and below 20 years of age group which were 62(20.66%) cases and 56(18.66%) cases respectively. Maximum affected age group was 21 to 30 years which was 16(42%) cases. In the Annual reports of 2003 of National Tuberculosis Program, Directorate General of Health Service, Dhaka, the statistics is 80% of the patients are economically productive are age group 15 to 54, which correlate with the present study [8].

In this study, out of 38 cases, histological reports of 12 cases had only granuloma. In Bangladesh granuloma goes in favor of tuberculosis, where as in Western countries the first diagnosis should be Crohn's disease [12-15] and only after exclusion of Crohn's disease tuberculosis is considered. In remaining 26 cases histological findings consisted with features pathognomic of tuberculosis like Langhan's giant cell and caseating necrosis.

Inspite of all modalities for the diagnosis of tuberculosis, a certain percentage of cases may remain undetected which is in 12.66% cases in this series. Therefore, in bare clinical suspicious, tissue for histodiagnosis is advocated [16]. Following measures can be taken for the prevention of the tuberculosis like effective implication of declaration of World TB day. It will cure you, pasteurization of milk [17], improve standard of the life [18], increase awareness by

ensuring mass health education [19] and effective and adequate treatment of tuberculosis [20] and arrangement of seminar and symposium locally and nationally for community awareness regarding tuberculosis [21]. Finally, early detection and adequate treatment [22-23] should be the principle to reduce the mortality and morbidity of the patient with intestinal tuberculosis.

5. CONCLUSION

In conclusion high rate of intestinal tuberculosis has been detected in the in clinically unsuspected laparotomy. Therefore, high degree of suspicion is needed for the diagnosis and treatment of the intestinal tuberculosis.

CONSENT

It is not applicable.

ETHICAL APPROVAL

Ethical approval was taken by local Ethics Review Committee of the Institute.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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