

Recurrence Rate of Abdominal Tuberculosis in Cases Presenting with Acute Abdomen

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ABSTRACT

Background: Acute abdomen is considered as one of the major causes leading to surgical emergencies and intestinal obstruction, perforation and many other underlying causes resulting in surgical consultation.

Aim: To determine rate of recurrence of abd. TB in cases presenting with acute abdomen to Sh. Zayed Hospital, Rahim Yar Khan.

Study Design: The Cross sectional study

Sampling Technique: Consecutive sampling non probability Sampling Technique

Methods: This particular study was conducted at teaching hospital Rahim Yar Khan from 10-04-2021 to 31-12-2022 in which the cases of both genders with age ranging from 15 to 60 years having acute abdomen presenting within 24 hours were included. Abdominal tuberculosis (TB) was labeled on histopathology when there was caseating granuloma.

Results: There were around 90 cases included in this present study. Out of these 50 (55.55%) were male patients and the rest of 40 (44.44%) were female patients. Approximately 34.91±11.35 was the Mean age in years of the patients and 67.13±21.39 in Kilograms was the mean weight. There were about 22 (24.44%) cases which had previous history of abdominal surgery. The abdominal tuberculosis was diagnosed in 30 (33.33%) of the cases as shown in figure 12. Abdominal TB was observed in 16 (32%) males and 14 (35%) females in their respective groups with $p=0.81$. TB was detected in 20 (35.71%) out of 56 cases in age group 15 to 39 years as compared to 6 (25%) out of 24 cases with age 40-60 years with $p=0.44$. There was no significant difference in terms of abdominal TB and weight ($p=1.0$) and also with cases that had previous surgery with $p=0.57$.

Conclusion: The abdominal tuberculosis (TB) is detected in one third of all the cases presenting with acute abdomen and there is no significant association of this with any of the confounding variable of the study.

Key words: Acute abdomen, abdominal TB, Granuloma, Biopsy

INTRODUCTION

According to studies around 3 million people die with tuberculosis (TB) around the world each year. According to an estimate 1 billion people across the globe infected in year 2000 to 2020 and apart from that 200 million people found sick and approximately 35 million deaths from TB were recorded as well, if control is not strengthened across the world. In this article, the radiologic aspects along with pathologic relationship to the pattern of tuberculosis infection in the Gastro intestinal tract are discussed in detail. It is quite obvious that one third of the population of the world is infected with the tuberculosis bacillus, but the clinical disease have not been detected in the individuals¹.

One of the major causes of this disease is Bacteria which attack whenever the immune system is weak. It is much more drastic in older patients along with the patients diagnosed HIV. It is very hard to control tuberculosis (TB) because it manifests in different groups of population and its pattern and natural history regarding this disease varies accordingly. On study it has also been revealed that the Gastrointestinal TB is a foremost health problem in majority of the developing countries like Pakistan. There has been a major increase in the cases of TB in particular in association with HIV infection in developed countries. The key reasons behind this scenario are global immigration and migration which are the cause TB in the developed countries.

In this study, it was found that the 6 months of therapy played a vital role more effectively as of therapy in patients diagnosed 9 months of intestinal TB. This particular study revealed that the therapy with a shorter duration may be beneficial for the patients diagnosed intestinal TB and above all it may reduce the cost providing better patient observance⁶.

The objective of the study was to determine the rate of recurrence of abdominal tuberculosis in cases presenting with acute abdomen to Sheikh Zayed Hospital, Rahim Yar Khan.

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MATERIALS AND METHODS

It was cross sectional study method that was conducted after approval from Ethical Committee in the Department of Surgery Sheikh Zayed Hospital, Rahim Yar Khan from 10-04-2021 to 31-12-2021. The sample size was considered as 90 by keeping 95% as confidence interval and the margin of error equal to approximately 10% with anticipated prevalence for abdominal tuberculosis presenting with acute abdomen as 29.03% in previous studies. It was non probability consecutive sampling technique. Both genders were included age ranging from 15 -60 years. All the cases of acute abdomen as per operational definition presenting within 24 hours were included in this study. Patients with end stage renal or liver disease (assessed by history and record) along with patient who had platelet count <50,000 at time of surgery. The patients which were reluctant to participate in this study were excluded accordingly.

Data collection procedure: The approval was taken from ethical committee of Sheikh Zayed Hospital, Rahim Yar Khan. An informed consent was also taken from each patient for participation in this particular study. Socio demographic data like age in years, gender (male/female), weight in Kilograms on electronic weighing machine and history of previous surgery was collected and recorded on a pre prescribed proforma. Afterwards, all these cases underwent surgical intervention and biopsy was also taken from the surgical site. The procedure was performed by a consultant surgeon with at least 1 year post fellowship experience by using all aseptic measures.

The tissue was taken from the site and preserved in formalin and the biopsy sample was sent for histopathology at the institutional laboratory. The cases with caseating granuloma on biopsy were labeled as TB and all these results were noted on the same proforma.

Data analysis: All the data related to this study was entered and analyzed with the help of SPSS version 23 by analyzing the quantitative variables like age and weight were presented in forms of mean ± SD. The frequency along with percentages were

calculated for gender, history of previous surgery and resulting variable i.e. abdominal TB was detected in the proforma recording (yes/no).

In addition to it, the effect modifiers were controlled through stratification of age, weight, gender, and history of previous surgery to see effect on outcome variable by taking P -value < 0.05 as significant poststratification using Chi-Square test.

RESULTS

In this present study, there were total 90 cases. Out of these 50 (55.55%) were male patients and 38 (44.44%) female patients. Mean age of the subjects was 34.91 ± 11.35 years and mean weight was 67.13 ± 21.39 kg as shown tables below. There were 22 (24.44%) cases that had previous history of surgery.

Abdominal tuberculosis was detected in 26 (32.50%) of the cases as shown in figure below. Abdominal TB was observed in 16 (32%) male patients and 14 (35%) female patients in their respective groups with $p=0.81$ as in table 01. TB was detected in 20 (35.71%) out of 56 cases in age group 15 to 39 years as compared to 6 (25%) out of 24 cases with age 40-60 years with $p=0.44$. There was no significant difference in terms of abdominal TB and weight ($p=1.0$) and also with cases that had previous surgery with $p=0.57$.

Table 1: Study subject (age) (n=90)

	Age (years)
Mean Age	34.91
Standard deviation	11.35
Minimum Age	20
Maximum Age	60

Table 2: Abdominal TB detected with respect to gender (n= 90)

GENDER	Abdominal TB detected		Total
	Yes	No	
Male	16 (32%)	34 (68%)	50 (100%)
Female	14 (35%)	26 (65%)	40 (100%)
Total	30 (33.33%)	60 (66.66%)	90 (100%)

DISCUSSION

In any part starting from mouth to anus of the gastrointestinal tract GI, the peritoneum and in the pancreatobiliary system the extrapulmonary tuberculosis (TB) can involved and this abdominal Tuberculosis may cause tuberculosis infection in gastrointestinal tract, mesentery, lymph nodes and omentum, the peritoneum and associated vital organs such as spleen and liver.

The preliminary clinical presentations are unclear as the disease involves several sites with varied morphology. The laboratory investigation is pathognomonic. In further investigation it is found that the radiology often fails to reveal the classical changes explained in surgical textbooks showing the histopathology of tissues and bacterial culture are considered as assenting investigations; so they are not efficient in term of time and money because they are immunological expensive tests. In this study, abdominal tuberculosis was detected in 30 (33.33%) out of 90 cases presented with acute abdomen. These results were in line with the findings of the studies which were carried out in the past where almost similar percentage scores were noted with slight variation.

In this study abdominal TB was observed in 16 (32%) male patients and 14 (35%) female patients in their respective groups with $p=0.81$. Additionally, there was no specific gender association and TB and almost similar percentage were seen in both groups and in few studies there was slight male dominance and in others female predominance was noted.

A similar equal distribution of male and female patients was seen in a local study from Larkana Sindh province of Pakistan and they also do not reported any significant association with gender with $p > 0.05$ whereas, they reported the occurrence of Intestinal tuberculosis in cases of acute abdomen as 16%.

It is quite obvious that there were few limitations of this study as this study didn't look for the association pulmonary disease or not which could have led to better detection of such cases and also this study didn't assessed for the types and severity of the disease and the areas involved specially with TB. On the other hand, there were many strengthening points as well, as this study highlighted a

significant entity which is typically not considered as part of the acute abdomen and is more thought to be linked with chronic ailments and also confabulated it against number of variables.

CONCLUSION

Abdominal TB is detected in almost one third of the cases presenting with acute abdomen and there is no significant association of this with any of the confounding variable of the study.

Author's contribution: Dr. Sidra Aleem: Abstract, Dr. Naeem Sarwar: Introduction, Material and Methods, Dr. Sajida Naseem: Data collection, Dr. Muhammad Arshad Abbas: Data analysis, Dr. Sohail Hameed: Tables and results, Dr. Rafay Bukhari: Literature review.

Conflict of interest: Nil

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