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AUTOPSY STUDY OF LIVER TUBERCULOSIS IN ADULT PATIENTS IN TERTIARY CARE HOSPITAL IN MUMBAI

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ABSTRACT Liver involvement in tuberculosis, through common both in pulmonary and extra pulmonary tuberculosis is usual clinical silent[1, 2 & 4]. In present study we came across 35 cases of hepatic tuberculosis, comprised 10.17% of all liver disease and 20% of secondary liver disease and 23.73% of all infections. Young adults were commonly affected with M: F ratio was 2:1. The commonest clinical features were fever 60%, abdominal pain 42.86%, and weight loss 28.5% [1, 2 & 4]. In present study hepatic tuberculosis was secondary tuberculosis and as a part of disseminated tuberculosis. Histology (majority cases) showed multiple granuloma comprising of central caseation surrounded by epithelioid cells and Langhans giant cell. It is a known fact that silent liver diseases are common amongst apparently healthy individuals and are sometimes diagnosed only at autopsy.

KEYWORDS : Liver Tuberculosis. Autopsy.

EPIDEMIOLOGY

More than 10 million cases per year worldwide, 2.79 million cases of tuberculosis in India. Tuberculosis is a leading killer of people who are HIN infected. About a decade back, abdominal tuberculosis accounted for 0.8 % of hospital administration [1]. And 0.7% of surgical admissions, [2], with similar prevalence in children admitted to a hospital[3]. Both the incidence and severity of abdominal tuberculosis are expected to increase with the increasing incidence of HIV infection in India; HIV seroprevalence was significantly higher in patients with abdominal tuberculosis than in voluntary blood donors (16.6% vs 1.4)[6].

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INTRODUCTION:

Tuberculosis can quite rightly be termed India's "national disease". The abdomen is the most common site of extra-pulmonary involvement. It is caused by mycobacterium tuberculosis and continues to be a common cause of morbidity and mortality in India[1]. Both incidence and severity of abdominal tuberculosis are expected to increase with the increasing incidence of HIV infection in India[2, 3, 6, 9]. It may involve any organ but till recently the liver was seldom considered to be the site of tuberculosis involvement except in few case of disseminated tuberculosis. Majority patients with hepatic tuberculosis have the milliary type consisting of widespread multiple granuloma. Classic well-formed granulomas have been observed individuals with early HIV disease[3, 6, & 9]. While patients with advanced HIV disease the granulomas are less well formed are more necrotic and may contain abundant bacilli[4].

Though primary tuberculosis of liver is rare, it can be involved secondarily due to pulmonary and extrapulmonary tuberculosis. This incidence is around 10-15%. Gupta et al[4&5] documented incidence in 63% of hepatic involvement of pulmonary and extra pulmonary tuberculosis and 46.1% patient presenting as pyrexia of unknown origin[1]

So identification of risk factors and early diagnosis are the key issues for effective interventions. Keeping all these views in mind, the present study was conducted with the following objectives

1. To study liver tuberculosis in adults in relation to primary tuberculosis with clinical presentations, age and sex.
2. To correlate gross morphological appearances with histopathological features.
3. To study liver tuberculosis in adults in relation to liver function test (LFT) and cause of death.

MATERIAL AND METHODS:

The present study was based on autopsy material.This was a descriptive cross sectional retrospective and prospective study carried out during 4½ years at tertiary care hospital. All the adult autopsies during this 4½ years period were screened for liver TB. Details of clinical history, examination and results of various investigative procedures with particular reference to liver function tests were obtained from hospital records whenever available. Standard routine procedure were used for fixation, embedding and sectioning. All sections were stained with Hematoxylin and Eosin. In selected cases special stains like Ziel Neelsen stain was also performed Acid Fast Bacilli.

OBSERVATION AND RESULTS:

In present study tuberculosis comprised 10.17% of all liver disease and 20% of secondary liver disease and 23.73% of all infections. Young adults were commonly affected with M: F ratio was 2:1. The commonest clinical features were fever 60%, abdominal pain 42.86%, and weight loss 28.5%[1, 2 & 4].In present study hepatic tuberculosis was secondary tuberculosis and as a part of disseminated tuberculosis. Tuberculous involvement of liver in majority cases was in the form of multiple grey white tubercles ranging from pin head to 0.5 cm with central caseation with normal intervening parenchyma. In present study the granuloma lesion were commonly seen in most of cases , while caseating granulomatous lesion were seen in case of disseminated tuberculosis (Fig. 1,2,) Though main lesion in hepatic tuberculosis is granulomatous lesion along with nonspecific changes such as fatty change, focal cellular collections, fibrosis are also seen. In one case which was HIV positive shows the classical picture of tuberculosis granuloma (Fig. 3). Comprised by central caseation surrounded by epithelioid cells, Langhans giant cell.

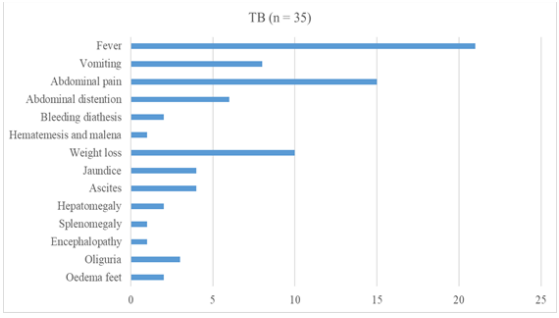
Liver function test (LFT) shows nonspecific changes do not help in the diagnosis. Only 5 (14.3%) cases out of 35 showed

deranged LFT[1, 2 & 4]. There is slight alteration in SGOT/SGPT was most frequent observation with mild hyperbilirubinemia[5]. Most of the patients came in gasping condition and died within 24 hours of admission[7].In present study 7(20%) of 35 cases of hepatic TB were known cases of pulmonary TB and 3 (8.6%) females out of 12 were pregnant. In our study AFB could be demonstrated in 2(5.7%) of 35 cases.In present study the commonest cause of death were disseminated TB[1,2&4].

TABLE : AGE AND SEX DISTRIBUTION OF TUBERCULOSIS CASES

Sr. No.	Age	TB (n = 35)	
		Male	Female
1.	Young adults (18-40yrs)	8	9
2.	Middle age (41-60yrs)	9	2
3.	Elderly (> 61)	6	1
	Total	23	12

CHART: SIGNS AND SYMPTOMS IN TUBERCULOSIS CASES



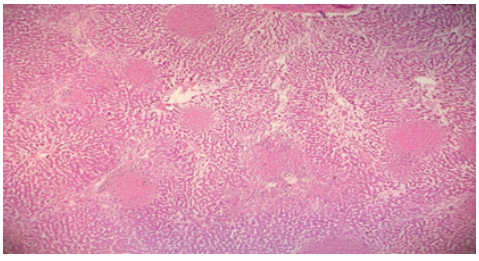


Fig. 1 Multiple caseating granuloma in hepatic TB (H & E 10x)

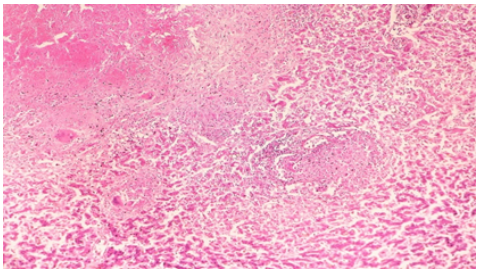


Fig. 2 Multiple caseating granuloma in hepatic TB (H & E 40x)

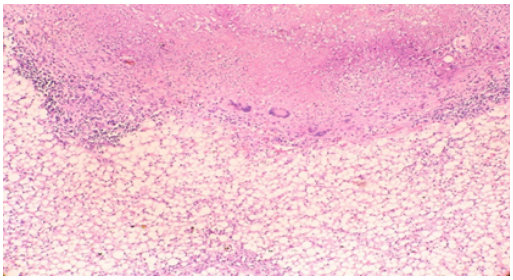


Fig. 3 Single caseating granuloma surrounded by epithelioid giant cells in HIV positive patient in background of fatty changes in hepatic TB (H & E 40x)

CONCLUSION:

It may be concluded from present study that hepatic involvement is not uncommon and hepatic tuberculosis was secondary tuberculosis and as a part of disseminated tuberculosis. Young adults were commonly affected with M: F ratio was 2:1. The commonest clinical features were fever 60%, abdominal pain 42.86%, and weight loss 28.5%1, 2 & 4.

The study was conducted on the specimen collected from the mortuary and not reflect the actual pattern of liver TB and emphasizes the need for further studies for early detection and treatment of the vulnerable group of people in the local population. Autopsy study is a good stepping stone towards achieving good morphological accuracy. Liver TB continue to be an important cause of morbidity and mortality in tropical countries. Early diagnosis and prompt interventions improve the survival and outcome of the disease. Since TB remains a potentially curable disease.

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