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Incidental Findings in Autopsy Examination of Liver: A Study of 70 Cases.

Poonam Singal[1], Mohanvir Kaur[2], Deepika[3]

[1]Senior resident, Dept. of Pathology, Govt. Medical College, Patiala.
[2]Assistant Professor, Dept. of Pathology, Govt. Medical College, Patiala.
[3]Postgraduate, Dept. of Pathology, Govt. Medical College, Patiala.

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ABSTRACT

Background: It is a known fact that silent liver diseases are common amongst apparently healthy individuals and are sometimes diagnosed only at autopsy. We aim to determine the prevalence of silent liver diseases in autopsy examination and to correlate it with age and sex. **Methods:** The study was conducted in the department of Pathology, Government Medical College, Patiala. Liver specimens were collected from 70 cases as a part of examination of multiple viscera, over a period of 1.5 years. Sections from representative area were submitted for processing, sectioned and stained with Hematoxylin and Eosin stain. **Results:** Out of 70 specimens, 24 (34%) showed fatty change, followed by Chronic venous congestion 19 (27%) cases, normal 9 (12%) cases, cirrhosis 8 (11%) cases, hepatitis 6 (9%) cases, autolysed 2 (3%) cases, granulomatous lesion 1 (2%) case and 1 (2%) with fulminant hepatitis. Maximum cases were in age group 41-50 years. Liver diseases predominated in males with male: female ratio of 5:1. **Conclusion:** Silent diseases of the liver are not uncommon. Autopsy examination of liver is very helpful to identify silent liver diseases like fatty change, cirrhosis, venous congestion and malignant tumours.

Keywords: Liver autopsy, Fatty change, Cirrhosis of liver.

INTRODUCTION

Liver is vulnerable to a wide variety of metabolic, toxic, microbial and circulatory insults. In some instances, the disease is primary while in others the hepatic involvement is secondary to cardiac de-compensation, alcoholism or extra-hepatic infections. Quite rightly liver is, called as "The custodian of milieu interior" Autopsy study is useful to monitor the cause of death and to plan medical strategy.[1]

Name & Address of Corresponding Author
Dr Poonam Singal,
Senior resident,
Dept. of Pathology,
Govt. Medical College,
Patiala.

Abnormal findings in liver autopsy can be fatty change, heparlobatum, glycogen storage disease, acute phosphorus poisoning, hemosiderosis, syphilis, actinomycosis, infarcts, cloudy swelling, tuberculosis, acute passive hyperemia, chronic passive hyperemia, amyloidosis, abscess, hydatid cyst, malignancy, cirrhosis and acute yellow atrophy.[2] These diseases can be seen as "silent liver disease" in the histological findings during autopsy. Alcohol abuse generally leads to three pathologically distinct liver diseases; these are fatty liver, hepatitis and alcoholic cirrhosis. Any one or all the three can occur at the same time, in the same patient.[3]

MATERIALS AND METHODS

Seventy specimens of liver of the deceased, irrespective of age and sex, received over a period of 1.5 years, in the Department of Pathology, Government Medical College Patiala, were examined grossly as well as microscopically. Postmortem examination being done in our institution are usually, cases of road / railway accidents, burns, drowning, hanging and poisoning. Liver specimens were mostly received as a part of examination of multiple viscera. In each case, important information regarding age, sex, clinical findings, food habit, alcoholic usage, suspected cause of death and post mortem findings were obtained from post mortem papers. Gross examination of the liver specimen was done as regards the weight, surface, capsule, colour, consistency, etc. Formalin fixed liver tissues stained with Hematoxylin and Eosin (H &E) were examined under the microscope. The findings of the examination were recorded and analysed. Autolytic changes were seen in the specimens as they are brought by the police & reach Pathology Department / histopathology laboratory quite late.

RESULTS

During the study, 70 cases were evaluated, out of which 58(82.8%) were males and 12(17.20%) were females.

Table 1: Histopathological findings.

Histopathology	No. of cases	Percentage
Fatty change	24	34%
Chronic venous congestion	19	27%
Normal	9	13%
Cirrhosis	8	11%
Hepatitis	6	9%
Autolysed	2	3%
Granulomatous lesion	1	1.5%
Fulminant hepatitis	1	1.5%
Total	70	100%

Out of 70 specimens, 24 (34%) showed fatty change [Figure1], followed by Chronic venous congestion 19 (27%) cases, normal 9 (12%) cases, cirrhosis 8 (11%) cases [Figure 2], hepatitis 6 (9%) cases, autolysed 2 (3%) cases, granulomatous lesion 1 (2%) case [Figure 3] and 1 (2%) with fulminant hepatitis [Figure 4].

Table 2: Age and sex wise incidence of all the cases.

Age group (years)	Male (%)	Female (%)	Total (%)
10-20	2(3.4%)	0(0%)	2(2.85%)
21-30	6(10.3%)	8(66.6%)	14(20%)
31-40	9(15.5%)	1(8.3%)	10(14.2%)
41-50	18(31%)	2(16.6%)	20(28.5%)
51-60	15(25.8%)	1(8.3%)	16(22.8%)
61-70	7(12%)	0(0%)	7(10%)
71-80	1(1.7%)	0(0%)	1(1.4%)
Total	58(100%)	12(100%)	70(100%)

Table 3: Sex wise distribution of all the cases.

Histopathology	Male (%)	Female (%)	Total (%)
Fatty change	22 (37.9%)	2(16.6%)	24 (34.2%)
Chronic venous congestion	13(22.4%)	6(50%)	19(27.1%)
Normal	6(10.3%)	3(25%0	9(12.8%)
Cirrhosis	8(13.7%)	0(0%)	8(11.4%)
Hepatitis	6(10.3%)	0(0%)	6(8.5%)
Autolysed	2(3.4%)	0(0%)	2(2.8%)
Granulomatous lesion	1(1.7%)	0(0%)	1(1.4%)
Fulminant hepatitis	0(0%)	1(8.3%)	1(1.4%)
Total	58(100%)	12(100%)	70(100%

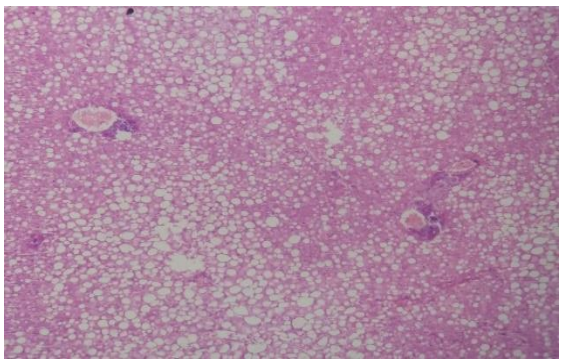

Figure 1: Section showing small and large fat droplets in fatty liver. (H & E X 100)

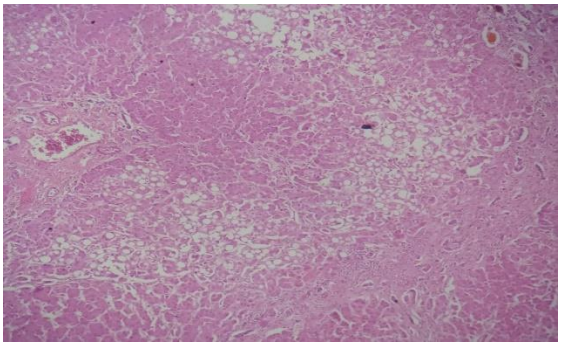

Figure 2: Section showing regenerating parenchymal nodule surrounded by bands of fibrous tissue in cirrhosis. (H & E X 100)

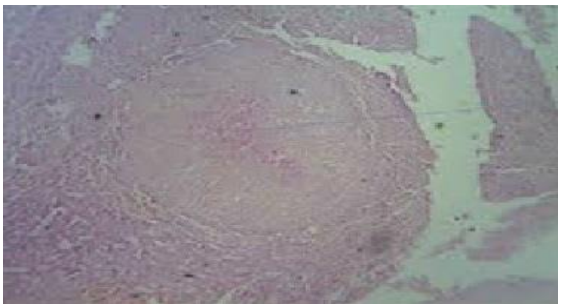

Figure 3: Section showing granuloma with caseous necrosis. (H & E X 100)

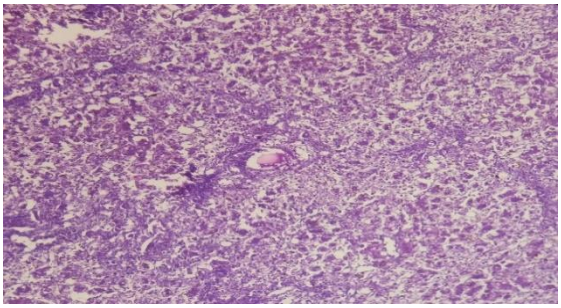

Figure 4: Section showing massive hepatic tissue necrosis with broad regions of parenchymal loss in fulminant hepatitis. (H & E X 100)

DISCUSSION

In the present study, maximum number of cases were seen in age group 41-50 (28.5%) years which was similar to studies conducted by Bal MS et al and Fubara DS et al i.e. 53.85% and 28% respectively.[4,5]

Liver diseases predominated in males in the present study (82.8%), comparable with the findings of, Bal MS et al (83%) and Sotoudehamanesh R et al (86.7%).[4,6] This may be attributed to the fact that men are more prone to alcohol consumption.

Present study showed that fatty change (34%) was the most common silent liver disease which was similar to studies by Bal MS et al (39%) and Selvi RT et al (26.9%).[4,7] This is because a large percentage of people in this region take alcohol which is major causative factor for developing fatty change. Regular intake of alcohol between 40-80 gm increases the liver weight and frequency of fatty changes in liver.

Second most common finding of chronic venous congestion was seen in 19 (27%) cases, which was also the second most common cause (31.3%) in a study by Sameer M A et al.[8] This could be due to the fact that CVC liver is the terminal end stage of death in most of the liver autopsies.

In our study, cirrhosis was seen in 11.4% which was comparable to the study by Bal M.S.et al showing 14% cases having cirrhosis whereas Bethke and Schubert showed that in a fifty-year autopsy series on 22000 cases, 0.4 - 7.2% of cases had cirrhosis.[4,9]

In our study, 6 out of 8 cases (75%) had history of alcohol intake; of these all were males. 5 out of 8 cases (62.5%) showed micronodularity while remaining 3 (37.5%) showed mixed nodularity. Similar results were seen in a study by Majethia NK et al who studied the pattern of liver cirrhosis in 118 autopsy patients.[10] History ofalcohol was seen in 83.25% of cases of which 95% were males. Among alcoholis, 48.4% showed micronodularity. Alcoholism contributes to an increase in chronic liver diseases especially cirrhosis which is completely preventable by abstinence from alcohol.

Hepatitis was seen in 9% cases of present study. Thamil SR et al reported 13.9% of cases having hepatitis,[11] while in a study of Bal M.S.et al hepatitis was found in 3% cases.[4]

In the present study, one case (1.5%) showed caseating granulomas with langhan's giant cells. Liver was part of generalised military tuberculosis and deceased had evidence of tuberculosis in liver and spleen. Soutoudehmanesh R et al observed granulomatous hepatitis in only 0.2%,[6] which was lower as compared to our study and 2% cases of hepatic granulomatous lesions were seen in a study by Devi Ph. M et al.[12] Hepatic TB is reported to occur in 50-80% of patients as a part of generalised military tuberculosis. Liver is a common site of granuloma formation owing to its rich blood supply. Primary hepatic tuberculosis is rare because low oxygen tension in liver is unfavourable for growth of mycobacteria as per Zheng Wu et al.[13]

One of the case (1.5%) showed fulminant hepatitis with hepatic encephalopathy in a 25 year old pregnant female who had history of recent abortion in first trimester. There was history of drug intake from quacks for terminating pregnancy using some desi medication. History of HEV infection was not available and there was no history of any prior liver disease. According to Crawford JM,[14] drug and chemical toxicity account for about 52% cases of fulminant hepatitis leading to hepatic failure.

Most of the cases that were reported in our hospital were due to Road traffic accidents. Also autopsies were being performed in suspected cases of poisoning, burns, drowning, hanging etc. Autopsy is a magnificent learning tool in the hands of pathologists to study the histopathological spectrum of diseases which help to study the in situ process as well as rare incidental findings.

CONCLUSION

Silent liver diseases are very common amongst apparently healthy individuals. In this study asymptomatic fatty liver was the most common silent liver disease followed by chronic venous congestion. Maximum cases were in the age group of 41-50 yrs with a M:F ratio of 5:1. If not detected early, some of these conditions may lead to serious outcomes.

The study was conducted only on specimens collected from the mortuary and may not reflect the actual pattern of liver diseases. The use of autopsy findings in conjunction with other scientific methods and investigative techniques remains as valuable today as it was centuries ago, both in daily practice and for scientific endeavor.

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