

Liver Pathology in Autopsy Cases: A Retrospective Study in A Tertiary Care Center

Ekta Rani¹, Sarita Nibhoria¹, Sanjay Kumar²,

¹Assistant Professor, Department of Pathology, GGS Medical College -Faridkot, Punjab, India, ²Professor, Department of Pathology, GGS Medical College -Faridkot, Punjab, India, ³Professor, Department of Pathology, PGIMS Rohtak, Haryana, India

Abstract

Background: Liver is the site of many diseases, many become symptomatic while few are diagnosed only on autopsy. The cause of chronic liver disease varies in different geographic areas and influenced by socioeconomic status, diet, life style and regional diseases.

Method: This retrospective study was carried out in a tertiary care hospital in the department of pathology over a period of one year. A total of 40 cases of liver specimens, received as part of liver, constituted the material for the study. All were autopsy cases and the organs were received in 10% formalin. Routine grossing and staining with H&E stain were performed. Slides were analysed and the findings were noted in percentages.

Results: A total of 40 specimens were studied. Age ranges from new born to 70 years, with 92.5 % male cases. 32.5% of cases were autolysed. 25% were showing chronic venous congestion followed by fatty change (22.5%), hepatitis (12.5%). 2.5% each of cirrhosis, steatohepatitis and normal liver.

Conclusion: 1. Autopsy has an important role in identifying the cause of death.

2. To overcome the autolysis of the specimen, the medical practitioner performing the autopsies should be trained about how to carry post mortem and to preserve the viscera for histopathological examination so that cause of death could be noted.

Key words: Autopsy , Fatty change, Cirrhosis, Hepatitis, Congestion, Steatohepatitis, autolysis

Introduction

Even the chronic liver diseases in advanced stage may go undiagnosed because of delayed sign and symptoms. Mostly diagnosed incidentally on routine health check-ups, surgery or at autopsy.¹ Liver is susceptible to variety of diseases with aetiologies including metabolic disorders, microbial infections, toxins and circulatory disturbances. Rightly liver is called as “Custodian

of milieu interior. To find out the cause of death and planning of treatment autopsy is beneficial.² Underlying cause of death varies in different parts of world.

Diseases in liver can be – congenital malformations, chronic venous congestion, hepatitis, fatty change, cirrhosis, Steatohepatitis, Pyogenic and amoebic abscess, hydatid cyst, storage disorders, hemosiderosis, tuberculosis, infarcts, actinomycosis, hepatoblastoma, hepatocellular carcinoma, metastatic deposits etc.³

Corresponding author

Dr. Sarita Nibhoria, Professor

Department of Pathology, GGS Medical College

-Faridkot, Punjab, India

Phone No. 9988291901

Email address: eku.2001@gmail.com

Material and Method

This retrospective study was carried out in a tertiary care hospital in the department of pathology over a period of one year. A total of 40 cases of liver specimens, received as part of liver, constituted the material for the

study. All were autopsy cases and the organs were received in 10% formalin. Routine grossing and staining with H&E stain were performed. Slides were analysed and the findings were noted in percentages.

Results

Table 1: AGE AND SEX DISTRIBUTION OF CASES (n=40)

AGE (yrs)	MALE	FEMALE	TOTAL	PERCENTAGE
<10	1	1	1	2.5%
10-20	1	0	1	2.5%
21-30	8	1	9	22.5%
31-40	8	1	9	22.5%
41-50	7	0	7	12.5%
51-60	6	0	6	12.5%
61-70	6	0	6	15%

Table 1 shows Maximum number of cases (18) were in the age group 21-40 years constituting 45%. Males are 92.5% and females are only 7.5% of the total number of cases.

Table 2: HISTOPATHOLOGICAL FINDINGS ALONG WITH SEX-WISE DISTRIBUTION (n=40)

FINDINGS	MALE	FEMALE	TOTAL	PERCENTAGE
Normal	1	0	1	2.5%
Fatty Change	8	1	9	22.5%
Congestion	10	0	10	25%
Hepatitis	4	1	5	12.5%
Cirrhosis	1	0	1	2.5%
Steatohepatitis	1	0	1	2.5%
Autolysed	12	1	13	32.5%
TOTAL	37	3	40	

Table 2 shows that 32.5% of cases were autolysed. 25% were showing chronic venous congestion followed by fatty change (22.5%), hepatitis (12.5%). 2.5% each of cirrhosis, steatohepatitis and normal liver.

Discussion

Out of total 40 cases maximum number falls in the age group of 21-40 years constituting 44.5%. Similar to the studies of Bhagat et al⁴ showing 22% of cases in 21-30 years. Patel et al¹ and Behera et al⁵ also studied that maximum cases were in age group 31-40 years (30.13%)

and 20-40 years (23.44%) respectively.

Liver disease was most commonly seen in males 92.5% than females 7.5%, comparable to the studies done by Sotoudehamaesh R et al⁶ (86.7%), Behera et al⁵ (82.81%) and Bal MS et al². This may be attributed to

the alcohol consumption in male population.

Table 3: COMPARISON OF FINDINGS OF OUR STUDY WITH OTHER STUDIES

Findings	Present (%)	Bhagat (%)	Behera (%)	Bal MS(%)	Selvi (%)	Smita (%)	Alagarsamy (%)	Patel (%)
Normal	2.5	21.7	26.56	30			22	
Fatty Change	22.5	32.5	21.87	39	26.9		20	35.69
Congestion	25	10	20.31	9	16.7		26	1.22
Hepatitis	12.5	18.3	12.5	3	13.9		10	0.98
Cirrhosis	2.5	7.5	9.37	14	7.4	4.43	16	2.44
Steatohepatitis	2.5		3.12					
Autolysed	32.5	5.8	3.12					

In our study 32.5% of the received specimens were autolysed, contributing the bulk which is not seen in any other study. Bhagat et al¹ and Behera et al⁵ noted 5.8% and 3.12% respectively. The reason for the autolytic changes were:

- 1) Poor preservation of the specimen: The specimens were not received in formalin.
- 2) Number of Viscera's and the size of container: All the viscera of a patient were received in a single container.
- 3) Delay in receiving the viscera.

So, to overcome the autolysis of the specimen, the medical practitioner performing the autopsies should be trained about how to carry post mortem and to preserve the viscera for histopathological examination so that cause of death could be noted.

Among the liver diseases, Congestion was the most commonly encountered (25%) which was in concordance with the studies of Behera et al⁵ (20.90%) and Alagarsamy et al⁷ (26%).

In present study Fatty change was seen 22.5% of cases. Behera et al⁵, Selvi et al⁸ and

Alagarsamy et al⁷ also noted almost similar percentages of Fatty change in their respective studies (21.87%, 26.9% and 20%). Regular intake of alcohol between 40-80gm increases the liver weight and frequency of fatty changes in liver.³

Hepatitis constituted 12.5% of total cases our study. This is in accordance to the studies conducted by Behera et al⁵ (12.5%), Bhagat et al¹(18.3%) and Selvi et al⁸ (13.9%).

Cirrhosis contributed only 2.5% of the liver diseases in the present study. This is similar to the study of Smita et al⁹ (4.43%) and Patel et al¹(2.44%). It is a end stage liver disease.

Steatohepatitis was seen in 2.5% cases showing concordance with Behera et al⁵ with 3.12% of hepatitis cases.

2.5 % cases show normal histopathology which was very low as compared to the other studies of Bhagat et al⁴, Behera et al⁵ and Bal et al².

Conclusion

1. Most common age group involved was 21-40 years.

2. Liver diseases were most commonly seen in males 92.5% than females 7.5%.

3. Autopsy has an important role in identifying the cause of death.

4. To overcome the autolysis of the specimen, the medical practitioner performing the autopsies should be trained about how to carry post mortem and to preserve the viscera's for histopathological examination so that cause of death could be noted.

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Conflict of Interest- Nil

Ethical Clearance- Taken from ethical committee PGIMS Rohtak.

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