

Silent Liver Diseases in Autopsies

Nidhi Sheth¹, Gautam Chauhan², Rekha Iyer³

¹Resident, Department of Pathology, Government Medical College, Bhavnagar 364001

²Associate Professor, Department of Pathology, Government Medical College, Bhavnagar 364001

³Assistant Professor, Department of Pathology, Government Medical College, Bhavnagar 364001

Abstract: Background: Liver is a major organ in our body which is vulnerable to various insults such as metabolic, toxic, microbial, circulatory and neoplastic. There may be no prominent sign and symptoms of chronic liver diseases and therefore, they may go undiagnosed or found incidentally. Objectives: The objective of the study was to find out the prevalence of silent liver diseases. Method: 349 liver autopsies specimens were assessed and 10 cases were excluded due to autolysis. Specimens were examined grossly and microscopically and findings were recorded. Results: Causes of death were- Myocardial infarction 52, RTA 39 and Poisoning 9. According to microscopic examination, majority of cases had fatty change 32.95% followed by congestion 18.91% and normal liver 17.48%. Interpretation and Conclusion: In this study of 349 cases, Males were 275 and Females were 74. Incidence of liver diseases was higher in 4th and 5th decades. The commonest finding was fatty change.

Keywords: Chronic liver disease, Fatty change

1. Introduction

Liver is a major organ in our body which is vulnerable to various insults such as metabolic, toxic, microbial, circulatory and neoplastic [1]. Sometimes, the disease is primary while in others, it is secondary to alcoholism, cardiac decompensation or extra hepatic infections. There may be no prominent sign and symptoms of chronic liver diseases and therefore, they may go undiagnosed or found incidentally. The underlying causes of such chronic liver diseases vary based on age, sex, socio-economic status, life style and endemic infections. Alcohol is one of the major cause of such silent liver diseases. Alcohol abuse mainly causes three liver diseases- fatty change, hepatitis and cirrhosis [2]. Other changes seen as silent liver diseases in histopathological findings are congestion and malignancy [3]. Short term ingestion of 80 gm alcohol produces mild and reversible fatty liver. Daily intake of 80 gm or more increases the risk for severe hepatic injury and daily ingestion of 160 gm or more is associated with severe injury [4].

2. Literature Survey

The true incidence and prevalence of silent liver diseases are not well known. This is because liver histology is required as the gold standard for precise diagnosis and as it is a invasive procedure it is still not considered essential.

3. Material and Methods

Ethical consideration: Permission of institutional review board before conducting the study was taken.

Sample size: The present study was conducted on liver specimens of 349 routine autopsies received in the Department of Pathology, Autopsy section, Government Medical College, Bhavnagar, Gujarat to find out the prevalence of silent liver diseases.

Methods: All the autopsy subjects irrespective of age, sex & cause of death were included in the study. Liver specimens were examined grossly and microscopically. The specimen were fixed in 10% formalin, weighed and dimensions measured. Grossly examined for color, consistency, nodules and congestion [5]. A minimum of two sections per liver were studied, irrespective of any gross pathology seen or not. After routine processing and paraffin embedding 4 micro meter section were taken. All the sections were stained with Haematoxylin & Eosin stain & mounted. All the histological sections were examined microscopically & findings were recorded [6].

4. Results

During the study period from January 2013 to June 2015, total of 349 cases were assessed and 10 cases were excluded due to autolysis.

Causes of death were- Myocardial infarction 52, RTA 39 and Poisoning 9.

Gross examination on the basis of color and cut-surface was observed and recorded from all 349 specimens of liver [Table-1].

Table 1: Gross Findings

External surface	Nos.	Cut surface	Nos.
Yellow green	115	Nodular	19
Yellow brown	100	Greasy	121
Red brown	17	Nutmeg	98
Normal	117	Normal	111
Total	349	Total	349

According to microscopic examination, majority of cases had fatty change 32.95% [Fig-1] followed by congestion 18.91% and normal liver 17.48%[Table-2].

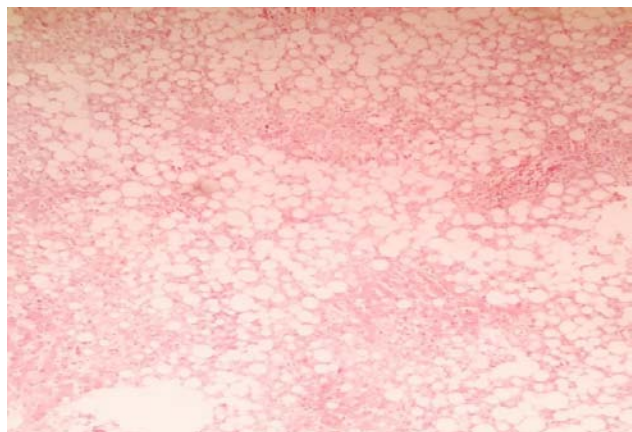
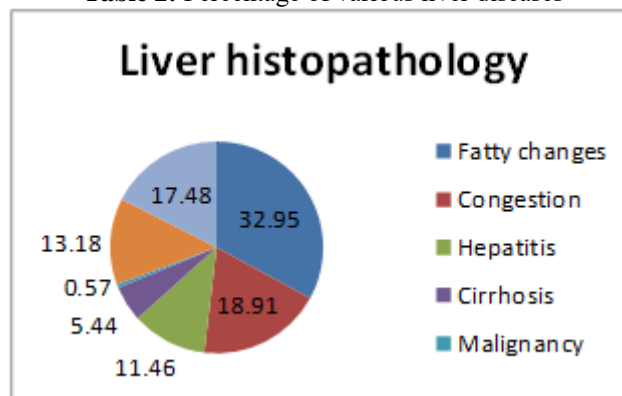


Figure 1: Fatty liver: Figure shows. (H&E Stain)

Table 2: Percentage of various liver diseases



The age range in the study was from 4 days to 100 years. The commonest finding was fatty change which was seen more in the age of 40 years and above. In the study, out of 349 cases 78.79% were males and 21.20% were females. Male predominance is seen in the study [Table-3].

Table 3: Histopathological Findings

Age	Histopathological Findings																				
	Fatty changes			Cirrhosis			Congestion			Hepatitis			Malignancy			Others			Normal		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
0-30	13	8	21	2	0	2	0	0	0	1	2	3	0	1	1	7	8	15	39	16	55
31-40	16	3	19	4	0	4	4	3	7	9	0	9	0	0	0	7	0	7	1	3	4
41-50	21	5	26	5	0	5	29	2	31	1	0	1	0	0	0	4	3	7	0	0	0
51-60	22	7	29	2	0	2	4	1	5	9	1	10	0	0	0	11	0	11	2	0	2
61-70	12	2	14	6	0	6	15	3	18	8	2	10	1	0	1	4	1	5	0	0	0
71-80	2	1	3	0	0	0	4	0	4	7	0	7	0	0	0	1	0	1	0	0	0
81-90	1	1	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
91-100	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	87	28	115	19	0	19	57	9	66	35	5	40	1	1	2	34	12	46	42	19	61
	32.95%			5.44%			18.91%			11.46%			0.57%			13.18%			17.48%		

5. Discussion

In this study of 349 cases, Males were 275 and Females were 74. Incidence of liver diseases was higher in 4th and 5th decades. The reason for men being more prone to death by diseases in comparison to females because men are the bread earners and so they are more exposed to the outside world. There is always a silent peer pressure as drinking alcohol is such a big part of socializing among males. For them it is also about relieving stress and being carefree.

In a study conducted by Hilden et al. among 503 cases of RTA, 370 persons (74%) had no pathological changes in the liver while Fatty liver was found in 120 persons (24%) [7].

Bal MS et al. conducted a study in which out of 100 cases of liver specimens- fatty liver 39%, normal 30%, cirrhosis 14% [Fig-2], congestion 9%, hepatitis 3%, malignancy 3% [Fig-3] and chronic abscess 2%; males predominate with 83% and female 17%; fatty liver was more common among 41-60 years of age [8].

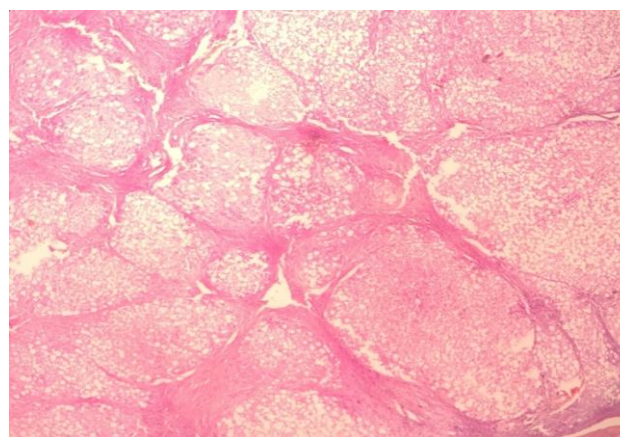


Figure 2: Cirrhosis: Figure shows (H&E Stain)

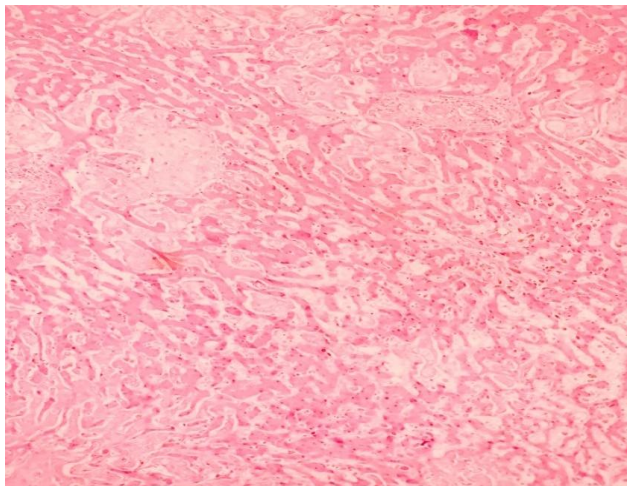


Figure 3: Malignancy: Figure shows (H&E Stain)

6. Conclusion

Silent liver diseases are not uncommon. Incidence is more in males than females. The most common finding was fatty change which was more in age of 41-60 years.

7. Future Scope

In clinical practice, liver biopsy is only performed for highly selected patients. Therefore, the reported rates cannot reflect the true prevalence of silent liver diseases in the general population. Since they are common and may lead to serious clinical consequences, they should be considered seriously as an important threat to the health.

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Author Profile



Nidhi Sheth received the M.B.B.S degree from Govt. Medical College, Bhavnagar in 2012 and currently in Final year of M.D.Pathology in the same institute.



Gautam Chauhan received the M.B.B.S degree and M.D. Pathology degree from M.P.Shah Medical College, Jamnagar in 2002 and 2007, respectively. He has published many papers in various National and International journals. He now is the Associate Professor, Department of Pathology in Govt. Medical College, Bhavnagar.



Rekha Iyer received the M.B.B.S degree and M.D. Pathology degree from Government Medical College, Bhavnagar in 2003 and 2009, respectively. She now is the Assistant Professor, Department of Pathology in Govt. Medical College, Bhavnagar.