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RESEARCH ARTICLE

STUDY OF LIVER PATHOLOGY IN AUTOPSY CASES-ORIGINAL ARTICLE

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ABSTRACT

A wide spectrum of primary as well as secondary diseases can affect liver. In the present study liver was examined from clinical autopsies during the period of 5 year. The aim of study was to study spectrum of histopathological lesions encountered in liver autopsy. Five years retro prospective study included 451 clinical autopsies. Sections from liver were studied with the help of H&E and special stains wherever necessary. The various hepatic lesions in this study were circulatory disorders (29.05%), hepatitis (21.29%), steatosis, (16.18%), cirrhosis (4.43%), granulomatous hepatitis (3.10%) and various hepatic neoplasm (2.88%), hepatic abscesses (0.89%), liver disorder in pregnancy (0.67%), metabolic disorders (0.44%) and hepatic lesions in multisystem diseases like malaria (0.22%). Circulatory disorder was the most common finding followed by steatosis. Primary and secondary neoplasms were seen in 13 cases of liver autopsies. The serious and fatal lesions of fulminant hepatitis with sub massive and massive necrosis were found in 4 cases. An 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 disease process as well as rare incidental diagnosis.

INTRODUCTION

Purpose of Autopsy is to learn the truth about the person's health during life and how the person really died. Thus autopsy study provides valuable information for about the disease. Liver being the principle site of many metabolic activities, it is the most frequently injured organ in the body. It also frequently involved in the metastatic spread of primary malignancies of other organs e.g. gastrointestinal tract. The major primary diseases of the liver are hepatitis, alcoholic liver disease, circulatory disturbances and neoplasm. The main purpose of this study was to analyze different patterns of liver diseases that are reflected in the morphology of the liver at autopsy, to study the clinico pathological correlation in various hepatic lesions

MATERIAL AND METHODS

This 5 year retrospective study was done in the department of pathology in a tertiary care centre which was included 451 autopsies. Consent was taken from ethical committee of the institute prior to the commencement of study. In this autopsy study liver and other organs were examined grossly. After fixation in 10% formalin, paraffin blocks were made. Sections were cut and were stained with H & E and other special stains wherever necessary. In each case, the important information regarding age, sex, clinical findings, suspected cause of death and post mortem findings were obtained from post mortem papers.

RESULTS

The study was conducted in department of pathology in which 451 liver autopsies were studied. The pathological lesions were noted in 354 (78.49%) cases, while in remaining 97 (21.51%) cases no specific pathology was seen. Out of these 354 cases, the circulatory disturbances in the form of chronic venous congestion and acute sinusoidal congestion was the most common lesion seen in 131 (29.05%) of cases followed by hepatitis in 96 (21.29%), steatosis in 73 (16.18%), cirrhosis in 20 (4.43%), granulomatous hepatitis in 14 (3.10%) and various hepatic neoplasm in 13 (2.88%) cases. The other lesions in descending order of frequency were hepatic abscesses (0.89%), liver disorder in pregnancy (0.67%), metabolic disorders (0.44%) and hepatic lesions in multisystem diseases like malaria (0.22%). The age wise distribution of the cases in present study was wide and maximum liver autopsies were from paediatric age group (up to 10 yrs), maximum being neonatal autopsies comprising 78 cases (7.29%). Circulatory disturbance was the most common finding followed by steatosis. Steatosis has specific gross findings and diagnosis was made on microscopic examination. The diagnosis of cirrhosis was made on gross examination and was confirmed microscopically. Primary and secondary neoplasms were seen in 13 cases of liver autopsies.

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Table 1. Distribution of liver pathologies in 451 autopsy cases

Type of hepatic lesion	Number of cases (n=451)	Percentage
Steatosis	70	15.52%
Hepatitis	96	21.29%
Circulatory disorders(CVC/ Acute sinusoidal congestion)	131	29.05%
Granulomatous hepatitis	14	3.10%
Cirrhosis	20	4.43%
Metabolic disorders	2	0.44%
Liver disorders in pregnancy	3	0.67%
Abscesses	4	0.89%
Liver in systemic diseases (malaria)	1	0.22%
Neoplasms(primary/Metastatic)	13	2.88%
No specific pathology	97	21.51%

Table 2. Comparison studies

Type of hepatic lesions	Tamil Selvi (2012)	Sarita Nibhoria (2013)	Present study
Fatty liver	26.9%	18.18%	15.52%
Circulatory disorders	16.7%	9.74%	29.05%
Hepatitis	13.9%	12.98%	21.29%
Cirrhosis	7.4%	6.49%	4.43%
Tumors	1.9%	1.94%	2.88%
Granulomatous hepatitis	_	0.64%	3.10%
Normal	25.9%	36.36%	21.51%
Others	_	_	2.22%
Simple cyst	_	0.64%	_
Autolysed	_	12.98%	_
Abscesses	7.4%	_	_
Total	100%(108 cases)	100%(154 cases)	100%(451 cases)

DISCUSSION

In our study we found hepatitis in 96 (21.29%) cases out of which 13 (2.88%) had acute hepatitis, 50 (11.08%) had nonspecific hepatitis which was comparable with Ghaziala Hanif *et al.* (2001), chronic hepatitis 8(1.77%) comparable with Masoud Sotoudeh *et al.* (2006). As per the study of Prasenjit Das *et al.* (2007) the acute type presentation of fulminant hepatic failure is most common followed by hyper acute. Subacute is least common. Our findings were similar to this study; i.e. 4 cases of fulminant hepatitis, 3 cases of hyper acute and 1 case of subacute hepatitis noted. Steatosis of liver was the frequent histological finding seen in routine autopsies in association with other histological features or as the only structural abnormality. Amarapurkar *et al.* (2007) and Sarita Nibhoria *et al.* (2013) found prevalence of steatosis 16.05% and 18.18% respectively, which is comparable with present study (15.52%). Masoud Sotoudeh *et al.* (2006) found non-alcoholic steatosis in 2.1% cases with male to female ratio 2.5:1.With respect to this we found NASH in 3.3%cases and male to female ratio was 2.7:1. Stet *et al.* (2013) studied neonatal hepatitis in 14 cases. They found infections in 50% cases while 50% were idiopathic, with respect to this we found infection in 33.3% cases while 66.6% were idiopathic. In the present study 14 cases of granulomatous hepatitis presented 13 cases were of tuberculosis and one was diagnosed case of Takayasu's arteritis which was comparable with Gaya *et al.* (2003). Cirrhosis was found in 4.43% cases which was comparable with Ghaziala Hanif *et al.* (2001). In metabolic disorder Indian childhood cirrhosis was noted in 1 year old female child showing micro nodular cirrhosis which was fairly comparable with study done by Nayak *et al.* (2008). The other case was type 1 glycogen storage disease in 2 year male child presented with massive hepatomegaly but normal liver function tests. In this disease despite hepatomegaly, liver enzyme levels are usually normal or near normal (Dennis ?). With respect to Bal *et al.* (2004) we found primary hepatic neoplasm in 1.3% while metastatic neoplasm in 1.6%. We have included lesions like metabolic disorders, liver disorders in pregnancy, abscesses and liver in systemic diseases (malaria) and both of the authors mentioned in Table 2. did not find these lesions in their study. The difference in most common lesions in these studies may be due to difference in sample size, age group and patterns of study. Both studies had included medico legal autopsies, as opposed to our cases from clinical autopsies done on hospitalized patients and as per clinical interest. Finally we conclude that 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 disease process as well as rare incidental diagnosis. The present study showed wide range of liver diseases, circulatory disturbance was the most common finding (29.05%) followed by hepatitis (21.29%), steatosis (15.52%), cirrhosis (4.43%), neoplasm (2.8%). A single case of hepatic lesion in multisystem disease like malaria (0.22%) was noted.

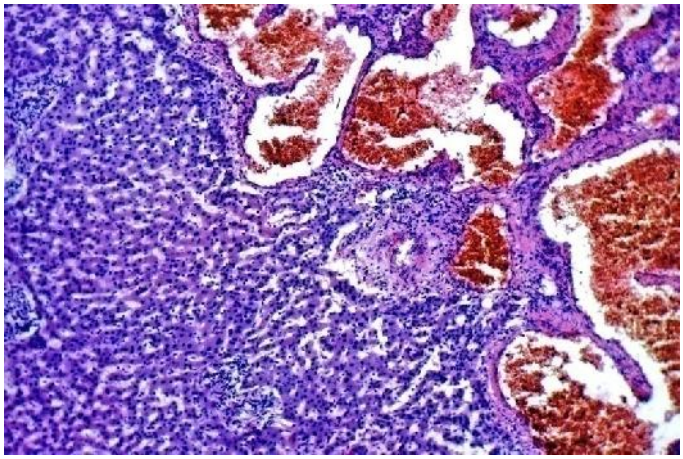

Fig.1. Section Shows Cavernous Haemangioma (H&Ex100)

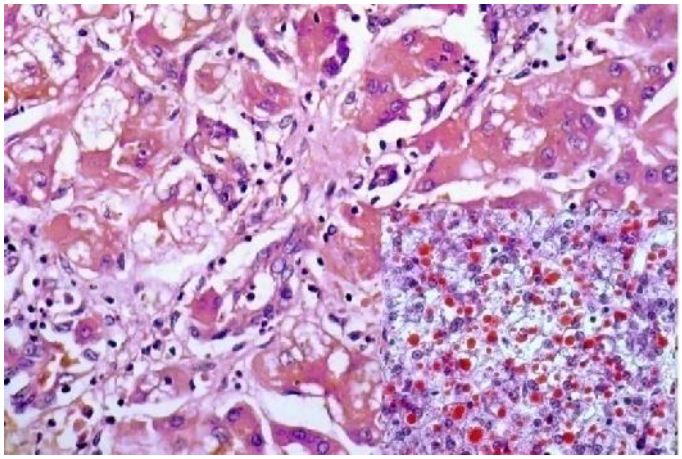

Fig.2. Section Shows Steatosis (H&Ex400) Inset- Oil-O-Red Stain Showing Micro vesicular steatosis (Oil-O-Redx400)

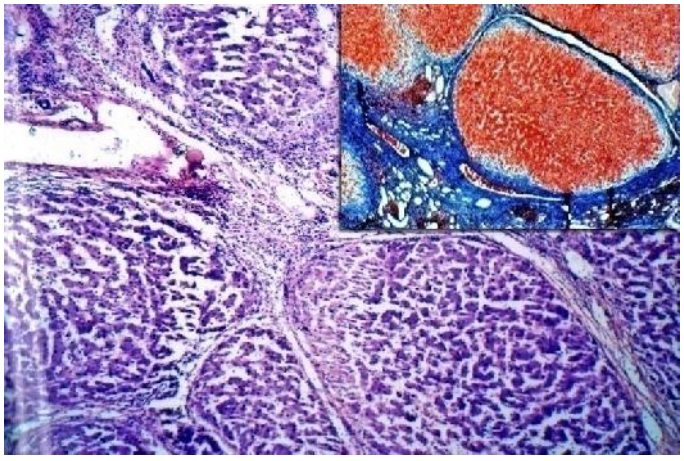

Fig.3. Section Shows Pseudo lobules In Micro nodular cirrhosis (Inset – Masson's Trichrome Stain X100)

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(Fig.1) Section Shows Cavernous Haemangioma (H&Ex100)
(Fig.2) Section Shows Steatosis (H&Ex400) Inset- Oil-O-Red Stain Showing Micro vesicular steatosis (Oil-O-Redx400)
(Fig.3) Section Shows Pseudo lobules In Micro nodular cirrhosis (Inset – Masson's Trichrome Stain X100)

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