CLINICOPATHOLOGICAL CORRELATION IN CHRONIC LIVER DISEASE AND HEPATOCELLULAR CARCINOMA

Pathology

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ABSTRACT

Cirrhosis can occur as result of various chronic hepatic disease and the incidence of hepatocellular carcinoma arising from cirrhosis is also variable depending on the etiology resulting cirrhosis. Viral hepatitis and alcohol consumption are the most world-wide among the most common causes of HCC. we planned this study to find out the the clinicopathological correlation in chronic liver disease and HCC. This study was done after obtaining the approval from Institutional Human Ethical Committee (IHEC) of Govt. Stanley Medical College, Chennai. 65 liver specimens were taken for this study. Hematoxylin and eosin staining of sections were done. Histopathological examinations of these sections were done. The cases showed an age range from 15 to 73 years. The cases with normal liver histology in the age ranges 15 to 35 years, hepatitis ranges 19 to 51, cirrhosis ranges 15 to 73 years and the HCC ranges 34-73 years. 45 cases were males and 16 were females. Amongst 8 cases of hepatitis, 4(50%) were males and 4(50%) were females. Amongst 17 cases of cirrhosis, 12(71%) were males and 5(29%) were females. Amongst 30 cases of HCC, 25(83%) were males and 5(17%) were females. chronic alcohol intake history was found in 50% of hepatitis patients, 63% of cirrhosis patients and 83% of HCC patients. In this study the most common risk factor for HCC is chronic alcohol intake followed by viral hepatitis. the significance of the development of hepatocellular carcinoma in the background of chronic hepatocellular injury has been highlighted.

KEYWORDS

cirrhosis, hepatocellular carcinoma, alcoholism, liver pathology

1. INTRODUCTION:

Hepatocellular carcinoma has varied etiology but commonly arises in cirrhotic liver. Cirrhosis can occur as result of various chronic hepatic disease and the incidence of hepatocellular carcinoma arising from cirrhosis is also variable depending on the etiology resulting cirrhosis. Viral hepatitis and alcohol consumption are the most world-wide among the most common causes of HCC. Primary malignant neoplasm of the liver stands for the sixth most common malignant neoplasm worldwide, and third most cause for death resulting from cancer. The worldwide incidence of the liver disease accounts for around 626,000 cases per annum, with a male to female ratio of about 2.5:1. The prognosis of HCC is poor, since most of the patient has the background liver diseases like hepatitis and cirrhosis. Hence early diagnosis of patients who are at risk of developing HCC by surveillance screening, better regional therapy, and targeted systemic therapy can all result to significant progress against HCC. In the cirrhotic liver, the chronic inflammatory process results in architectural and functional abnormalities. As a result hypoxia occurs which is the most important factor that stimulates angiogenesis. The process of angiogenesis includes destabilisation of already existing vessels, endothelial proliferation, and vessel sprouting, followed by stabilisation of the newly formed vessels that can be found in numerous chronic inflammatory disorders and neoplastic conditions

2. AIM

To study the clinicopathological correlation in chronic liver disease and HCC.

3. MATERIALS & METHODS:

This study was done after obtaining the approval from Institutional Human Ethical Committee (IHEC) of Govt. Stanley Medical College, Chennai. The study was carried out in the Department of Pathology, Govt. Stanley medical college, in collaboration with the Department of Surgical Gastroenterology, Total of 65 specimens were taken for this study.

INCLUSION CRITERIA

All specimens of liver by needle biopsy, tumor resection, segmentectomy and explanted liver were processed routinely and stained with hematoxylin and eosin.

EXCLUSION CRITERIA

Biopsy proven cases of metastasis and cases with inadequate data were excluded.

METHOD

For all the 65 cases, details of age, sex and other relevant clinical data were recorded. Site of lesion, size, gross appearance and three dimensional measurements taken. Multiple bits from the lesion and the adjacent areas were taken and processed routinely for paraffin embedding and sections were cut at 5 microns. Hematoxylin and eosin staining of sections were done. Histopathological examination of these sections was done. Sections from hepatocellular carcinoma are graded according to their degree of differentiation into well, moderate and poorly differentiated based on WHO criteria

4. RESULTS

TABLE 1: AGE DISTRIBUTION

AGE IN YEARS	HEPATITIS	CIRRHOSIS	HCC
11 - 20	2 (25%)	2 (12%)	-
21 - 30	2 (25%)	2 (12%)	-
31 - 40	2 (25%)	5 (29%)	6 (23.3%)
41 - 50	1 (12.5%)	5 (29%)	5 (17%)
51 - 60	1 (12.5%)	1 (6%)	13 (43%)
61 - 70	-	1 (6%)	4 (13.4%)
71 - 80	-	1 (6%)	1 (3.3%)

In our study the cases showed an age range from 15 to 73 years. The cases with normal liver histology in the age ranges 15 to 35 years, hepatitis ranges 19 to 51, cirrhosis ranges 15 to 73 years and the HCC ranges 34-73 years.

TABLE-2: SEX DISTRIBUTION

Sex	HEPATITIS		CIRRHOSIS		HCC	
	No of cases	% of cases	No of cases	% of cases	No of cases	% of cases
Male	4	50	12	71	25	83
Female	4	50	5	29	5	17
Total	8	100	17	100	30	100

In our study 45 cases were males and 16 were females. Amongst 8 cases of hepatitis, 4(50%) were males and 4(50%) were females. Amongst 17 cases of cirrhosis, 12(71%) were males and 5(29%) were females. Amongst 30 cases of HCC, 25(83%) were males and 5(17%) were females.

TABLE-3: ASSOCIATION BETWEEN ALCOHOLISM AND LIVER DISEASE

Alcoholism	Hepatitis		Cirrhosis		Hepatocellular carcinoma	
	No of cases	% of cases	No of cases	% of cases	No of cases	% of cases
Present	4	50	12	63	25	83
Absent	4	50	5	37	5	17
Total	8	100	17	100	30	100

In this study chronic alcohol intake history was found in 50% of hepatitis patients, 63% of cirrhosis patients and 83% of HCC patients.

TABLE -4 : ASSOCIATION BETWEEN VIRAL MARKERS AND LIVER DISEASE

Viral markers		Hepatitis		Cirrhosis		HCC	
		No of cases	% of cases	No of cases	% of cases	No of cases	% of cases
Positive	HBV	5	63	9	53	14	47
	HCV	-	-	1	6	4	13
Negative		3	37	7	41	12	40
Total		8	100	17	100	30	100

In this study viral hepatitis was found in 63% of hepatitis patients, 59% of cirrhotic patients and 60% of HCC patients. **DISCUSSION**: This retrospective study was carried out in the department of pathology, govt. Stanley medical college, in collaboration with the department of surgical gastroenterology. Total of 65 specimens were taken for this study and were evaluated. In our study the cases showed age ranging from 15 to 73 years. The cases with normal liver histology in the age ranges 15 to 35 years, hepatitis ranges 19 to 51, cirrhosis ranges 15 to 73 years and the hcc ranges 34-73 years. The mean age for hcc is 53.5 years which is in concordance with studies by amarapurkar et al. In our study 45 cases were males and 16 were females. Amongst 8 cases of hepatitis, 4 were males and 4 were females. In our study viral hepatitis was found to be the most common cause for chronic hepatitis, 5(65%) cases were hbv positive, out of this 5 cases alcohol consumption and hbv infection was seen in 3 cases, 1 case was alcoholic with negative viral markers and remaining 2 cases were diagnosed as cholestatic hepatitis following biliary stricture. Amongst 17 cases of cirrhosis, 12 were males and 5 were females. Out of 17 cirrhotic cases, history of alcohol intake is present in 12(63%) cases, and it is found to be the most common etiological factor. **CONCLUSION**: This retrospective study was carried out in the Department of Pathology in collaboration with the Department of Surgical Gastroenterology, after obtaining the approval from the Institutional Human Ethical Committee of Government Stanley Medical College, Chennai over a period of 2 years study was carried out in the Department of Pathology, Govt. Stanley medical college. Total of 65 specimens which include 10 cases of normal liver, 8 cases of chronic hepatitis, 17 cases of cirrhosis and 30 cases of Hepatocellular carcinoma were taken for this study and were evaluated. In this study the most common risk factor for HCC is chronic alcohol intake followed by viral hepatitis. The significance of the development of hepatocellular carcinoma in the background of chronic hepatocellular injury has been highlighted.

7. REFERENCES:

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