Original Article

Liver Biopsy in Chronic Viral Hepatitis (B And C) and Autoimmune Hepatitis Referred to Shahid Sadoughi Hospital Yazd, Iran

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ABSTRACT

Objective: To evaluate the liver biopsies of patients with chronic viral hepatitis and autoimmune hepatitis based on age, gender, clinical features with staging and grading of disease.

Material and Methods: This descriptive study was conducted through case series and all patients who were positive for HBsAg or HCV Ab or autoimmune hepatitis, had liver biopsies and were assessed for staging and grading based on scheuer system. Data were analyzed using SPSS version 13 and chi-square test.

Results: One hundred twenty patients were included in this study with 94 males and 26 females. Forty eight (40%) were HBsAg positive, 58 (48.2%) HCV positive, 16 (13.3%) autoimmune hepatitis and 2 had both B and C hepatitis. There was significant relation between HCVAb with gender (P:0.00), cirrhosis and age (P:0.006), cirrhosis and gender (P:0.00), staging of hepatitis with duration of clinical signs (P:0.000) and grading of disease (P:0.000), frequency of cirrhosis and beginning of clinical signs

(P:0.000) and significant relation between incidence of autoimmune hepatitis with gender.

Conclusion: We suggest all patients with chronic hepatitis diagnosed on clinical signs and serological markers, undergone liver biopsy and scheuer or other staging and grading to prevent and decrease progression into the end stage phase. (Rawal Med J 2008;33:91-94).

Keywords: Viral hepatitis, autoimmune hepatitis, cirrhosis.

INTRODUCTION

The most important cause of chronic hepatitis is viral hepatitis B or C.[1] The clinical features of chronic hepatitis are highly variable and lead to cirrhosis and hepatocellular carcinoma.[1] Autoimmune hepatitis is a chronic hepatitis with histological features that may be indistinguishable from those of chronic viral hepatitis.[1] Hepatitis B has been reported a common cause of chronic hepatitis in men in Brazil.[2] In chronic hepatitis, especially C type and co-infection of B and C viral hepatitis, the best method for demonstrating of disease activity is using grading and staging system on the biopsy specimens.[3] These systems include Scheuer, Metavir, HAI and Knodell scora.[3] In hepatitis C, 23% patient after 20 years had cirrhosis and increasing age >40 was an important factor for establishment of cirrhosis.[4] Other studies from Japan[5] and China[6] have shown positive correlations between inflammatory activity and progress of chronic hepatitis. The aim of this study was to assess the liver biopsy specimens in hepatitis B,C and autoimmune, based on gender, age, duration of clinical signs, and scoring the inflammatory activity and the stage of fibrosis progression based on scheuer system to determine the relation of them.

MATERIAL AND METHOD

This descriptive study was conducted through case series and population included all patients with hepatitis B,C or both and autoimmune hepatitis. Their inflammatory activity were scored by Scheuer scoring system, where grade of inflammatory activity is divided into four level, grade 0: no inflammation or minimal inflammation, grade 1: portal inflammation or lobular inflammation without necrosis, grade 2: mild piecemeal necrosis or focal hepatocellular necrosis, grade 3: moderate piecemeal necrosis or severe focal damage of hepatocytes and grade 4: severe piecemeal necrosis or bridging necrosis.

Table 1. The frequency of Hepatitis stage based on initiation of clinical signs

Stage / Initiation of clinical signs (year)		Stage 0	Stage 1,2	Stage 3,4	Total
0-11	Number	36	12	1	49
	Percent	73.5	24.5	2	100
12-23	Number	12	6	9	27
	Percent	44.4	22.2	33.3	100
24-35	Number	4	4	8	16
	Percent	25	25	50	100
>36	Number	7	3	18	28
	Percent	25	10.7	64.3	100
Total	Number	59	25	36	120
	Percent	49.2	20.8	30	100

P=0.000

The staging in system has stage 0: no fibrosis, stage 1: widening fibrous of portal tract, stage 2: periportal or portal to portal septum, stage 3: bridging fibrosis with structural disturbance without significant cirrhosis and stage 4: cirrhosis. Other data

such as age, gender, clinical features and duration of disease were noted from patient records. Data were analyzed using SPSS version 13 and chi-square test.

RESULTS

Out of 120 patients, 94 are men and 26 are women. The mean age was 33.67 years. Forty eight patient (40%) were HBsAg positive, 58 (48.3%) HCV Ab positive and 16 (13.3%) had autoimmune hepatitis. Two patients had co-infection of both HBsAg and HCV Ab.

Table 2. The frequency of Hepatitis grade in liver biopsies based on initiation of clinical signs

Grade / Initiation of clinical signs(year)		Grade 0	Grade 1,2	Grade 3,4	Total
0-11	Number	8	34	7	49
	Percent	16.3	69.4	14.3	100
12-23	Number	2	19	6	27
	Percent	7.4	70.4	22.2	100
24-35	Number	2	5	9	16
	Percent	12.5	31.3	56.3	100
>36	Number	1	11	16	28
	Percent	3.6	39.3	57.1	100
Total	Number	13	69	38	120
	Percent	10.8	57.5	31.7	100

P=0.00

Thirty six patients had cirrhosis. Forty eight patients were HBsAg positive, 38 (40.4%) were men and 10 (38.5%) were women (p=0.856).

There was no significant correlation between age and hepatitis C (P=0.315), significant correlation between sex and HCV Ab (P=:0.000), significant correlation between cirrhosis and age, which in group (40-49years) 13 patient had a cirrhosis and group (<20 years) have a lowest incidence (p=:0.006).

Table 3. The frequency of Cirrhosis in liver biopsies based on the duration of signs and symptoms

Cirrhosis / duration of signs(year)	Total NO.	Positive NO (%)
0-11	49	1 (2)
12-23	27	9 (33.3)
24-35	16	8 (50)
>36	28	18 (64.3)
Total	120	36 (30)

P=0.000

In 36 patient with cirrhosis, 24 (25.2%) were men and 12 (46.2%) were women (p=0.042). There is no meaningful correlation between cirrhosis and HCV Ab (p= 0.339), no correlation between cirrhosis and HBsAg positive (p=0.569), meaningful correlation between duration of disease and staging, which with increasing the duration of disease the staging is also increased (p=0.000) (Table 1), significant correlation between the initial signs of disease and grading (p=0.001) (Table 2).

In patients where their symptoms duration was from 0-11 months, in them one case and in patients whose symptoms duration was 36 months, 18 cases had a cirrhosis, showing that there is meaningful relation between the duration of of symptoms with cirrhosis (p=0.000) (Table 3).

There was significant relation between gender and autoimmune hepatitis (p=0.000) and no relation between age and autoimmune hepatitis (Table 4).

DISCUSSION

Viral hepatitis is an important cause of chronic hepatitis. Based on findings, the frequency of both hepatitis B and C were more in men than women especially hepatitis C, which in 58 patients 56 case were men and 2 of them are women. This is

similar to a study from shiraz university[7] and a study from Syria where they reported 40% of patients with HCV infection had IV drug abuse.[8] In our study, 48.3% had hepatitis B which is same as reported earlier.[7] In our study, 2 patients (1.6%) had a co-infection with hepatitis B and C while 1% to 80% rates have been reported.[9-12]

Table 4. The frequency of autoimmune hepatitis in liver biopsies based on gender.

liver biopsies / Sex	Total	Autoimmune Hepatitis	
		NO.	%
Male	94	1	1.1
Female	26	15	57.7
Total	120	16	13.3

P=0.000

In a study in France this rate was 4.5%.[13] In our study, 17.5% of patients are under 20 years of age, which is similar to study from shiraz university.[7] In French study, 50% of patients had hepatitis B and 19% of them progressed to cirrhosis, 57% of these had HBcAb.[13] In our study, 40% had HBsAg positive and 27.1% of them progressed to cirrhosis and 72.5% of them were HBcAb positive. In the same study,[13] 26% of patients who had hepatitis C, progressed to cirrhosis, while this was 25.9% in our study. In our study, distribution of staging and grading of clinical symptoms was similar to other studies where increasing the duration of disease (stage) increased with the inflammatory activity (grade) if the disease.[14] In conclusion, we suggest that all patients with chronic viral hepatitis may benefit from a liver biopsy based on one of the staging and grading systems the grading and staging.

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