

LIVER FIBROSIS IN CHRONIC VIRAL HEPATITIS C

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Keywords: chronic hepatitis C, cirrhosis, liver fibrosis

Abstract: Chronic hepatitis C is an inflammatory liver disease caused by infection with hepatitis C virus, potentially evolving to cirrhosis, hepatocarcinoma, death. HCV infection in Romania is responsible for 64% of chronic hepatitis and 55.8% of liver cirrhosis. To establish the treatment needs should be staging the disease, the liver fibrosis caused by viral action constitutes an important means of assessing the severity of liver injury.

Cuvinte cheie: hepatită cronică virală C, ciroză hepatică, fibroză hepatică

Rezumat: Hepatita cronică virală C este o boală inflamatorie hepatică determinată de infecția cu virusul hepatitic C, cu potențial evolutiv spre ciroză hepatică, hepatocarcinom, deces. În România infecția VHC este responsabilă de 64% din hepatitele cronice și 55,8% din cirozele hepatice. Pentru stabilirea necesităților de tratament se impune stadializarea bolii, nivelul fibrozei hepatice determinate de acțiunea virală reprezentând un important mijloc de apreciere a gravității afectării hepatice.

PURPOSE OF THE STUDY

To establish the treatment needs should be staging the disease, the liver fibrosis caused by viral action constitutes an important means of assessing the severity of liver injury.

MATERIAL AND METHOD

We have studied 184 patients diagnosed with chronic hepatitis C who were admitted between January 2002 - March 2009, in the Emergency Clinical Hospital Sibiu and Military Emergency Hospital Sibiu.

Inclusion criteria

Diagnosis of chronic hepatitis C was made on clinical criteria, ultrasound, laboratory- persistent changes in liver enzymes more than six months (although they were minimal), the presence of HCV antibodies.

Quantitative determination of viremia in most patients was performed after liver biopsy, if the histological changes were entered into treatment protocols.

Exclusion criteria

Exclusion criteria were established in the failure of patients to perform liver puncture and the presence of contraindications bios points.

For determination of contraindications for biopsy in all patients were performed:

- ultrasound evaluation (to rule out the presence of ascites, the expansions of bile canaliculi, the presence of hemangiomas)
- chest radiocopy

Biological evaluation excluding mainly of haemostasis disorders, severe anemia, severe cholestasis.

Punctures were made with these Menghini needles of 1.6 mm diameter (16 gauge) by transthoracic approach, with local anesthesia prior to post-expiratory apnea.

All fragments analyzed had lengths greater than 15 mm. In very few situations where we extracted a smaller piece we repeated extraction of a representative excerpt. Histopathology of liver fragments obtained was performed by the pathological laboratory of the Clinical Hospital of

Emergency. Histopathological examination results were quantified using the Ishak score, the need for uniform analysis of cases.

Statistical analysis

Statistical analysis of results was done on several variables, the distribution by age, sex, profession, type of work, living environment, possible sources of infection, alcohol abuse or the presence of diabetes correlated with changes detected in biopsy fragments necroinflammatory-activity, fibrosis, presence of steatosis.

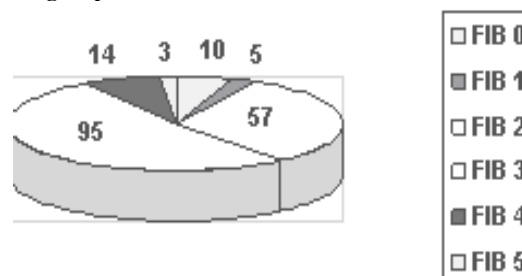
RESULTS AND DISCUSSIONS

Fibrosis

The entire group of 184 subjects on key values Ishak fibrosis index had the following distribution (fig.1):

- Fibrosis 0 = 10 subjects (5.43%)
- Fibrosis, 1 = 5 subjects (2.71%)
- Fibrosis, 2 = 57 subjects (31%)
- Fibrosis, 3 = 95 subjects (51.6%)
- Fibrosis 4 = 13 subjects (7%),
- Fibrosis 5 = 3 subjects (1.6%)

Figure no. 1. The repartition of the fibrosis levels in the studied group



Fibrosis were considered significant higher values than 3.

Thus group consisted of 72 (39.1%) patients with insignificant fibrosis, 109 (59.2%) patients with significant

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CLINICAL ASPECTS

fibrosis and three subjects with cirrhosis (1,6%) (fig.1)

Distribution by sex

Sex distribution in the whole group was as follows (fig 2): 121 females (65.8%);63 mens (34.2%)

In the group with fibrosis below 3, the distribution by sex was: Female 49 (69%), male 22 (31%) (Fig. 3)

In the group with fibrosis more than 3 distribution by sex was: Female 72 (69%);males 41 (31%)

Figure no 2. The repartition on gender in the studied group

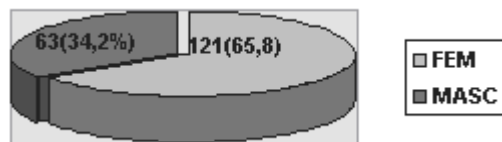
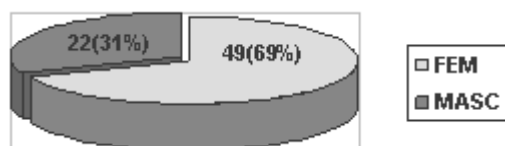


Figure no. 3. The repartition on gender in the group with non-significant fibrosis



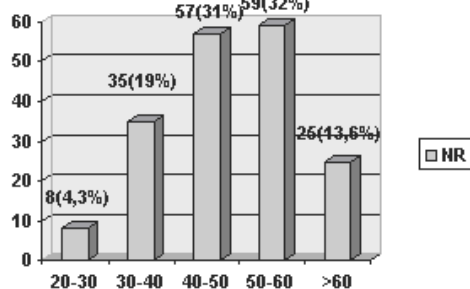
Age

The average age of patients studied was 48.45 years, with limits between 22 and 65 and a standard deviation of 10.18.

Structuring by age group was as follows (fig. 4):

- In group 20-30 years were enrolled 4.3% of subjects (8).
- The group 30-40 years, 19% (35).
- The group 40-50 years, 31% (57).
- The group 50-60 years, 32% (59).
- Over 60 years, 13.6% (25).

Figure no. 4. The repartition on age groups



Note that most of the subjects (63%) were aged between 40 and 60 years. This distribution can be explained by the presence of virus need for a long period required for establishment of chronic hepatitis amendments requiring virus persistence and its action in the body (1, 2, 3).

In the group average age of female subgroup was significantly lower compared to male subgroup, which is not found in the detailed analysis on the group index of fibrosis (Ishak) <3 or > 3.

This could be explained by the general trend of more severe hepatitis C virus in males, which could cause symptomatic disease earlier than in females, leading to presentation to a medical service and investigation.

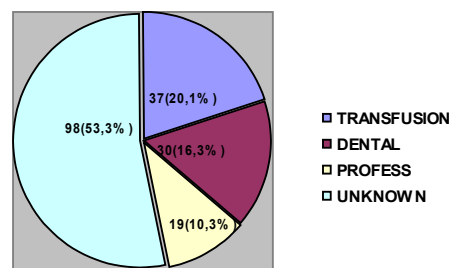
Source of infection (fig.5)

Given the long duration of infection until diagnosis, source of infection could be suspected in a small number of patients, many remain unknown (6,9). (fig. 5)

Thus, of the 184 patients 37 (20.1%) had undergone blood transfusions, the most likely source of infection is that,

with a mean age of 47.59 years and a standard deviation of 9.7630 (16.3%) of them underwent dental treatment more frequently than others, with an average age of 48.5 years and a standard deviation of 10.69. 19 (10.3%) were medical workers, most likely cause of infection was occupational exposure (4, 5-8), with an average age of 47 years, standard deviation of 11.25. With all information requested on 98 patients in group (53.3%) source of infection could not be established, with a mean age of 49.04 years and a standard deviation of 10.08. Between the ages of four groups there was no significant difference, $p = 0.764$.

Figure no. 5. The repartition of the group by the way of infection



Living environment

Patients in the study came from rural areas at a rate of 24.5% (45 subjects) and urban areas at a rate of 75.5% (139 subjects). This can result in better informing patients about the disease in urban areas, with their increased addressability to the family physicians in urban areas. The physicians are more informed about the risk of long-term development of the illness, about the epidemiological conditions, they have increased opportunities to participate in symposiums, conferences, or accessibility to the Internet.

Figure no. 6. Distribution according to lifestyle

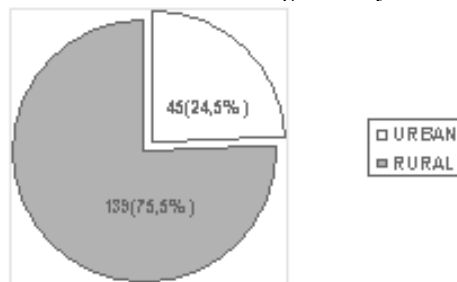
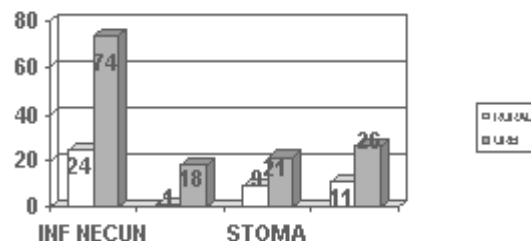


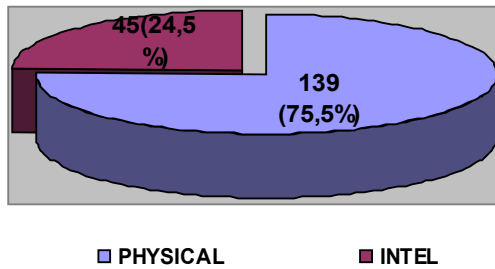
Figure no 7. The correlation between the way of living and the way of infection



Also, there was not a significant correlation between the environment of origin of subjects and the ways of getting infected.

Type of activity

In group the proportion of subjects in the study to provide physical labor was 75.5% of them (139), and those who perform intellectual work 24.5% (45)

Figure no. 8. The type of performed work

There is a significant correlation between the type of activity and the source of infection both in the overall group and the fraction with significant degree of fibrosis.

In patients who performs physical work the number of unknown source of infections was significantly higher than those who provide intellectual work. Cases of occupational infection occurred less frequently in situations of occupation based on physical labor, because they are less exposed to contamination with HCV.

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