

Impact of hepatitis C virus infection on the aetiology of cirrhosis and hepatocarcinoma in three affiliated hospitals in southern Belgium

J. Henrion, S. De Maeght, P. Deltenre, J.M. Ghilain, J.M. Maisin, M. Schapira, F. Heller

Hôpital de Jolimont, Haine St Paul, Belgium.

Abstract

In a consecutive series of 411 patients with cirrhosis attending the outpatient liver clinics of 3 general hospitals located in the southern part of Belgium, hepatitis C virus infection accounted for 20% of the cases, far behind alcohol (63%). However, in a consecutive series of 57 hepatocarcinoma superimposed on cirrhosis, hepatitis C virus infection was the main aetiological factor accounting for 44% of the cases. (*Acta gastroenterol. belg.*, 2002, 65, 80-82).

Introduction

Since January 1995, patients with cirrhosis attending the outpatient liver clinics of 3 affiliated medical centres located in the southern part of Belgium, were proposed to enter a programme of periodic screening for hepatocarcinoma (HCC). We took advantage of this programme to determine the impact of HCV infection on the aetiology of cirrhosis and hepatocarcinoma in this part of Belgium.

Patients and methods

Cirrhoses

From January 1995 to June 2001, 411 patients were enrolled in 3 centres : 273 at the *Hôpital de Jolimont* in La Louvière, 80 at the *Centre Hospitalier de Nivelles* and 58 at the *Clinique Saint Joseph* in Lobbes (since April 1998 for this last centre). Demographic data, clinical liver status and pertinent biochemical liver tests of all patients with cirrhosis free of HCC and attending at least one time the outpatient liver clinics were recorded on a special file. The diagnosis of cirrhosis was confirmed by histology in 287 (70%) and was based on clinical, biochemical and imaging findings in the others. For each patient, the main aetiology of cirrhosis was determined on historical, clinical, biochemical and histological grounds. HCV infection was recognized by positive anti-HCV antibodies (Elisa Method) and was confirmed by HCV RNA determination, if needed.

Hepatocarcinoma

During the same period, 57 patients with HCC were also seen at the outpatient liver clinics. Forty were incidental HCC, generally discovered during the initial work-up for cirrhosis while 17 were HCC appearing during the surveillance programme. Therefore, these

17 patients were also included in the above series of 411 cirrhotics free of HCC. The diagnosis of HCC did not require histological confirmation, but was in agreement with the non-invasive criteria proposed by the *Barcelona-2000 EASL Conference* (1). Fifty five (96.5%) of these HCC were superimposed on cirrhosis. The last two occurred in patients with chronic HCV infection and liver fibrosis of F2 (1 case) or F3 (1 case) stage.

General setting of the medical centres

The 3 centres are located in a radius of less than 25 kms apart and are general hospitals with a recruitment of patients coming mostly from the general practitioners of the region. Each centre serves a different population. La Louvière, where the *hôpital de Jolimont* is located, is the largest city in the "région du Centre" of Belgium and was formerly an industrial city with coal mine exploitation and steel works. There, the medical population belongs mainly to the labour class and the proportion of immigrant people of Italian origin reaches ~ 20%. By contrast, the medical centres in Nivelles and Lobbes serve rural and middle-class population.

Results

Cirrhoses

The mean age was 56 years (range 17-84) and the sex ratio was 259 M / 152 F. Seventy eight percent (n = 322) were of Belgian origin, 19% (n = 77) of Italian origin and 3% (n = 12) of other origin. The country origin varied according to the medical centre. The ratio of Italian patients was 27% in La Louvière, and only 3% in Nivelles + Lobbes areas (p < 0.001). Aetiologies of cirrhosis in the 411 patients are reported in table 1. Alcohol remained the main cause of cirrhosis (63.5%) followed by HCV infection (20%). In the 77 patients originating from Italy, HCV infection was the main aetiology of cirrhosis, accounting for 50.5% of cases (fig. 1) (p < 0.001 for the rate of HCV infection in Italian versus other patients). Anti-HCV antibodies were also positive in 6% (12/249) of the alcoholic cirrhotics that were tested.

Corresponding author : J. Henrion, Hôpital de Jolimont, B-7100 Haine St Paul, Belgium.

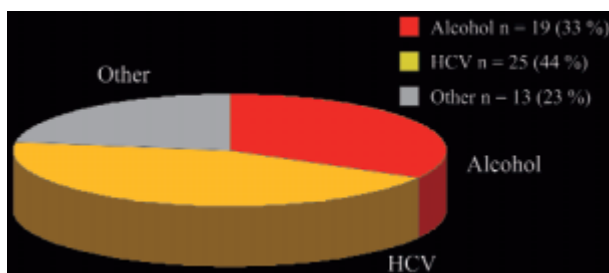


Fig. 1. — Principal aetiological factor in 77 cirrhotic patients of Italian origin.

Table 1. — Principal aetiological factor in 411 patients with cirrhosis

Alcohol	261 (63.5%)
HCV infection	82 (20%)
Other	68 (16.5%)
– HBV infection	16
– Autoimmune Hepatitis	13
– Hemochromatosis	14
– Drug-induced	5
– Cryptogenic	20

Hepatocarcinoma

The mean age was 65.3 years (range 36-83) and the sex ratio was 38 M / 19 F. In contrast with cirrhosis free of HCC, alcohol was not the principal aetiology of cirrhosis complicated by HCC. Indeed, HCV infection accounted for 44% of the HCC cases, while alcohol accounted for 33% (fig. 2). Two (10.5%) of the patients with alcoholic cirrhosis and HCC were also carriers of anti-HCV antibodies.

Discussion

First, it may be interesting to point out that the demographic data herein reported, fairly represent the real epidemiology of cirrhosis and hepatocarcinoma in our region. Indeed, thanks to excellent relationship, we can assume that most cases of cirrhosis diagnosed by the general practitioner are referred to the liver outpatient clinics of our centres. Therefore, the data of the present study were not biased by a selective recruitment as it may be the case in academic centres where patients are referred because of the need for transplantation or difficulties with diagnosis and management.

While viral infection is the first cause of chronic liver disease worldwide, by contrast alcohol remains the main cause of cirrhosis in the *central region* of Belgium. This is in agreement with data published by other general hospital from North-Western Europe (2). Nevertheless, in our region where cirrhosis is automatically associated with alcohol in the mind of most people, HCV infection accounts for twenty percents of all cases. This figure is even higher in the important immigrant population from

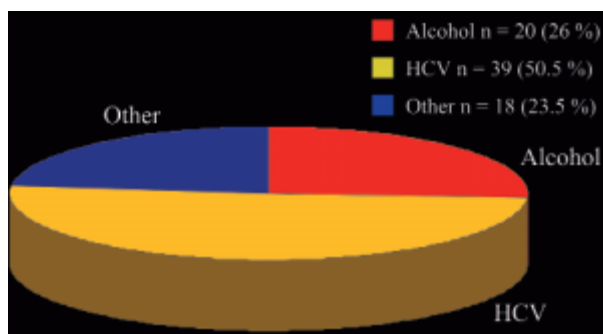


Fig. 2. — Principal aetiological factor in 57 cases of hepatocarcinoma.

Italy where it reaches 50% and gets close to data from Italian hospitals showing that HCV infection accounts for more than 50% of cirrhotoses (3).

The impact of HCV infection is more impressive in HCC. Even though the first western case of HCC superimposed on cirrhosis was published only in a recent past, in 1983 (4), nowadays HCV infection is responsible for HCC in a range of 30% in Northern Europe (5,6,7) to more than 70% in Southern Europe (7,8). In the present study, HCV infection accounted for at least 44% of HCC and was the first aetiological factor ahead of alcohol. The rising impact of HCV infection on the emergence of HCC explains partly why the mortality due to HCC has regularly increased in most western countries for 20 years (8,9-12). There is, also, mounting evidence supporting the view that cirrhosis due to HCV infection exposes more to the risk of HCC than alcohol or HBV related cirrhosis (13-15).

Finally, it may be interesting to point out that anti-HCV antibodies were found in only 6% of patients with alcoholic cirrhosis in the present study. Several epidemiological studies have reported a higher seroprevalence of HCV markers among alcoholics (16). In a French study (17) including 3346 alcoholic patients admitted to a Parisian hospital between 1982 and 1985, anti-HCV antibodies were present in 17.1% of the 395 histologically proven cirrhotoses. The discrepancies could be explained by a greater risk of contaminated blood transfusions before 1990, or by a greater risk of drug addiction in the Parisian area.

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