


Hepatitis C viremia and serum lipid levels: A clue from an epidemiology study

To the Editor:

We would like to thank Dr. Giannini and Dr. Savarino for their interest in our article and we appreciate their comments. The clinical status of hepatitis C virus (HCV) infection in terms of the severity of histopathology is lacking in our study [1]. It is indeed neither appropriate nor possible to undergo liver biopsy for more than 11,000 residents in a large-scale study. Based on the cross-sectional survey in our community-based study, we found HCV-viremic patients had lower serum lipid levels than anti-HCV-negative or anti-HCV-positive (but non-viremic) individuals which provided strong evidence of the association between HCV viremia and lower serum lipid levels. Furthermore, with the advantage of a large scale study, our report demonstrated the impact of HCV viremia among anti-HCV positive individuals. We also observed hepatitis B virus surface antigen positivity was independently associated with low serum lipid levels by multivariate analysis. The residents enrolled were aged 40–65 years and around 10% of them, according to previous studies, may be positive for hepatitis B e antigen which has been recognized to be strongly associated with an increased risk of active cirrhosis [2,3]. In addition, we have also observed a reciprocal viral interaction between hepatitis B virus (HBV) and HCV after interferon-alpha/ribavirin therapy [4]. Hence, HBV infection might play a less important role among anti-HCV-positive subjects, particularly among the HCV viremic patients in our study. Nevertheless, the lack of HBV DNA is an important limitation in our study to validate the association between serum lipid levels and the severity as well as viral load of chronic HBV infection.

Recently, the association between cholesterol metabolic pathway and the life cycle in terms of HCV production, secretion and entry by human hepatocytes has been reported [5,6]. HCV replicates on membrane vesicles involved in the assembly and secretion of very low-density lipoproteins and the low density lipoprotein receptor involved in HCV entry were observed [7,8]. Incidentally the development of drugs that target the cholesterol or lipoprotein metabolism and might be useful in treating HCV infection by inhibition of HCV RNA replication or production of HCV particles from infected cells is still ongoing, although their safety profiles and benefits require more sufficient evidence [5,9,10]. Accordingly, we believe our epidemiologic study, also taking the viral genotype into consideration, implicates an evident association between HCV RNA status and serum lipids. We deem it necessary at the same time to investigate the mechanisms of interaction between HCV and lipids.

References


Interpreting liver stiffness in the cirrhotic range

To the Editor:

The review by Castera et al. [1] presents significant interest to the community as it reports a non-invasive evaluation of liver fibrosis using transient elastography (TE). Indeed TE is becoming an important tool in the future practice of hepatology to assess hepatic fibrosis in patients with chronic liver diseases. The optimal cut-off value for the diagnosis of cirrhosis suggested from the summary ROC was 13.01 kPa [2] with range from 10.3 kPa in chronic hepatitis B to 17.3 kPa in chronic cholestatic diseases. According to these results, TE can be used in clinical practice as an excellent tool for the confirmation of cirrhosis when other clinical signs and examinations are non-decisive.

Recently, we had the opportunity to examine a liver biopsy (January 2008) taken from a 54 year old diabetic, hyperlipidemic patient, with a past history of myocardial infarction (in 1993 and 1996), triple coronary bypasses (1997), and implantation of a cardiac defibrillator (2004). This patient was treated with a long list of medications including diuretics, sugar lowering agents, hypotensive drugs. In November 2007 and January 2008, the patient underwent 2 TE satisfactory measurements (Fibroscan) which were surprisingly high (14.3 and 34.8 kPa, respectively) consistent with the diagnosis of cirrhosis possibly related to NASH because of a raised BMI (28), increased GGT (450 IU/L, normal <61), elevated triglycerides (4.18 mmol/L, normal <1.7), low HDL ratio (0.74, normal >1). He was HBV and HCV negative and transaminases were normal. The probability of cirrhosis was further reinforced by an elevated Fibrotest (0.84). To confirm the diagnosis and the etiology of cirrhosis a liver biopsy was performed.

Biopsy analysis revealed that the liver architecture was preserved. In addition, there was major sinusoidal dilatation with a preserved non capillarized sinusoidal endothelial barrier (CD 34/CD31 negative) and a major sinusoidal fibrosis (reticulin stain) with activated smooth muscle actin positive hepatic stellate cells. There was no portal fibrosis, no septa formation and no argument for the diagnosis of cirrhois, steatosis or NASH. Therefore, the final diagnosis was cardiac hepatopathy [3].

The elevated fibrotest value in the cirrhotic range could be explained by the elevated level of unconjugated bilirubin (32 μmol/l, normal <18). It is also likely that sinusoidal fibrosis contributed to the high TE value [4]. The discrepancy between the 2 TE measurements remains difficult to explain unless liver blood volume and sinusoidal dilatation controlled by the cardiac pump plays a major role in stiffness.

Curiously, there is no data in the literature concerning TE data related to cardiac hepatopathy, and more generally to sinusoidal diseases (SOS, haematological disorders, amyloidosis, etc) or vascular diseases (shunts, nodular regenerative hyperplasia, etc). The evidence we can derive from a single case is rather weak. “ad hoc” studies are warranted and should be programmed. This evaluation using this rapid, painless and easy technique

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