Hepatology highlights

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Survey of health status, nutrition and geography of food selection of chronic liver disease patients

Leslie T, et al. The present global epidemic of obesity has implications not only for the incidence of cardio-metabolic disease but also for the incidence of chronic liver disease (CLD). While non-alcoholic fatty liver disease (NAFLD) is more prevalent among obese individuals and is a predictor of incident cardio-metabolic disease, further studies are needed to determine whether NAFLD is an independent predictor of mortality. Simple NAFLD, i.e. NAFLD without inflammation or fibrosis, is not associated with increased liver-related mortality. Although HBV and HCV infections are increasingly less incident in Western countries, they are responsible for most of the global burden of liver disease and are established predictors of death. Since there is some evidence that excess weight may worsen the prognosis of HBV and HCV infection, obesity has become a problem transversal to both metabolic and infectious liver disease. Knowing how patients with CLD eat may help to understand better the role of nutrition in both the pathogenesis and treatment of liver disease. However, Nutritional Epidemiology is acknowledged to have two main problems: 1) the generally low accuracy with which foods/nutrients are measured and, 2) the generally low respondent rate. Problems 1 and 2 do of course interact, as the more accurate is the measuring instrument, the higher is the burden of the respondent and the lower the respondent rate.

Geographical information systems (GIS) have been central to understand the association of the availability of fresh foods and recreational areas with obesity. Although association is not causation, cross-sectional studies using GIS have shown an inverse association between such environmental factors and the prevalence of obesity. Leslie and colleagues report on an interesting interdisciplinary effort to apply GIS to the study of food habits of CLD patients. This study has several limitations, i.e. the low respondent rate (16%), a possible spectrum bias, and the availability of better statistical methods to combine individual-level data with geographical-level data. However, even with these limitations, we believe that the idea underlying this study and especially the interdisciplinary work behind are valid and merit further exploration. An interesting feature of this study is that it was performed in a country characterized by high average wealth and many food choices. Such "over-saturation" with food choices poses special challenges that must be taken into account by researchers interested in using GIS to study nutritional choices of CLD patients and other individuals.

Ultra-sensitive procalcitonin may help rule out bacterial infections in patients with cirrhosis

Marciano S, et al. Bacterial infections are common in chronic liver diseases (CLD), particularly at the more advanced and severe stages. More important is the observation that infection is associated with a poorer outcome suggesting not only the need to rapidly diagnose bacterial contamination but also to vigorously treat this condition. Making a diagnosis of infection in an advanced liver patient is not easy as one of the key biomarkers of infection (leukocytosis) is masked by the concomitants hypersplenism. When ascites is present, the count of white blood cells (WBC) in the ascitic fluid helps and provides easy, low cost indication of the presence of spontaneous bacterial peritonitis, the most common infection of cirrhotic subjects. Marciano and col-

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leagues evaluated the use of a new test, the ultrasensitive procalcitonin (PCT), in identifying infection in patients with CLD. A total of 216 subjects were enrolled, but only 50% were examined, 27% of them infected. Mean serum PCT was about 7 times higher in infected patients together with a significant increase of bilirubin and creatinine (1.5 times); no difference was observed in the severity of the CLD assessed by either the MELD or Child-Pugh score. PCT showed an area under the ROC curve of 0.95 and its accuracy was not influenced by age, disease severity, fever and other parameters. The cutoff value of 0.098 ng/mL showed a sensitivity of 97% and a negative predictive value of 98% suggesting PCT as a very powerful marker to rule out infection in patients with advanced liver disease. As also acknowledged by the authors, the main limitation of this study is the lack of comparison with other more common and less expensive indices of inflammation. This is particularly the case for the WBC count in ascitic fluid. Since 86% of infected and 76% of non-infected patients had ascites, it would be highly informative to evaluate the diagnostic efficacy of PCT vs. WBC count in ascites and compare the cost and time to obtain the results between the two markers. This approach would allow to realistically define the role of PCT in the workup of subjects with advanced CLD as far as infection is concerned, allowing an earlier and more proper treatment of this ominous condition.