Liver disease: Understanding it will enable the provision of better treatment

April 18 2013

In this prospective study, led by Dr Richard Moreau, INSERM Research Director (Mixed Research Unit 773 "Centre de Recherche biomédicale Bichat-Beaujon"; INSERM/Université Paris Diderot) who is also a practitioner attached to the Hepatology Department of the Beaujon Hospital (AP-HP), researchers studied a cohort of 1343 patients from 12 European countries.

The results, published in the learned journal *Gastroenterology*, describe, for the first time, the specific profile of sufferers from this syndrome that is associated with cirrhosis. This also makes it possible to more clearly define the actual rules of attribution of the organs in those most severely affected, for whom there is a high risk of early death.

Cirrhosis is an irreversible liver disease. It is characterised by chronic inflammation that destroys the liver cells and produces anarchic regeneration in the form of nodules. The disease causes the liver to lose function and is accompanied by multiple complications. When these complications manifest (bleeding in the digestive tract, bacterial infection, accumulation of liquid in the abdomen, etc.), this is known as decompensated cirrhosis and the patients are hospitalised.

A certain number of these patients quickly develop a syndrome characterised by acute liver failure and/or failure of other vital organs1 (ACLF – acute-on-chronic liver failure). The syndrome is associated with a high risk of death at one month and no diagnostic criteria were clearly established hitherto that might make it possible to describe the

condition.

Through a consortium , the researchers in Mixed Research Unit 773 "Centre de Recherche biomédicale Bichat-Beaujon" (INSERM/Université Paris Diderot), analysed data from 1343 patients hospitalised due to acute cirrhosis complications between February and September 2011 in 29 Hepatology Departments in 12

European countries . This enabled them to define robust diagnostic criteria for ACLF, indicating that one-third of the patients enrolled in the study had developed this syndrome.

The researchers noted that, compared to patients not suffering from ACLF, those who developed acute failure of an organ or organs were younger, were most frequently prey to alcoholism, suffered from a larger number of bacterial infections and had higher levels of white blood cells, as well as other markers of organ inflammation.

Quite unexpectedly, failure was most severe in patients without a previous history of cirrhosis complications. A high number of organ malfunctions (liver, kidneys, brain) were observed in these patients, including white blood cells in the blood and a mortality rate within one month of admission to hospital that was15 times greater than in patients who had a previous history.

"The identification of the criteria to define acute failure of an organ or organs enabled us to show that this is a separate syndrome from cirrhosis complications. In addition to organ failure and the high associated mortality, the development of the disease depends on the patient's age and medical history", explains Richard Moreau, INSERM Director of Research, and the Principal Investigator for the study. "We hope to be able to better identify those at risk of early death in order to improve their treatment. Furthermore, these results could lead to improving the

current rules for assigning organs for grafting in the severest cases", he concludes.

Provided by Institut National de la Sante et de la Recherche Medicale