

The portal venous system in liver cirrhosis: not yet a gray zone

Liver cirrhosis is a complex disease involving many systems, mainly located inside the abdominal cavity. The clinical diagnosis today is usually followed by laboratory, endoscopic, radiological examinations, among which the sectional imaging tools, ultrasound, computed tomography and magnetic resonance, have a relevant importance. In particular computed tomography allows a morpho-dynamic study of the entire portal venous system, that often demonstrates different lesions secondary to the underlying hepatic disease. The clinical outcome of many cirrhotic patients, as well many acute or chronic complications in course of their disease can be referred to an altered haemodynamics of the portal venous system, typically secondary its hypertension: gastro-esophageal varices, ascites, splenomegaly, etc.

A close relation between severity of the primary liver disease and grade of portal hypertension is evident; however in the usual score systems of liver cirrhosis, the grade of portal hypertension or other abnormalities of the portal system are not considered. Besides, before a surgical procedure, especially abdominal, evaluation of the morphological and functional abnormalities of the portal venous system can help in predicting possible intra-or post-operative complications, and can guide the surgeon toward the choice of the best strategy.

There are also particular conditions where the sectional imaging tools, Doppler ultrasound, computed tomography and magnetic resonance, allows to detect specific pathologies of the portal venous system, directly or indirectly correlated to cirrhosis. In particular different features and grades of thrombosis of the portal vein or of its extra- or intra-hepatic branches, a left-sided portal hypertension secondary to obstruction of the splenic vein, inversion of the portal vein flow with a hepato-fugal direction, can be directly diagnosed with the aid of imaging tools.

Today direct measurement of the portal vein pressure is possible. However we think that this invasive procedure would take place after a careful preliminary study of the entire portal venous system by sectional imaging tools, among which computed tomography must be considered for its completeness and accuracy.

In conclusion, we think that pathology of the liver, especially cirrhosis, cannot be separated from that of the portal venous system. A morpho-dynamic knowledge of its lesions permits a better prevision of the possible outcome of the primary hepatic liver disease and a more accurate stratification of its clinical risks.

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[For a better morpho-dynamic evaluation of the portal system in cirrhosis.](#)

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