NON-INVASIVE EVALUATION OF PORTAL HYPERTENSION BY SPLEEN ELASTOGRAPHY.
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Severity of portal hypertension is a crucial prognostic factor in patients with liver cirrhosis. Invasive measurement of hepatic venous pressure gradient (HVPG) is a standard method used for the evaluation of portal hypertension. Although generally safe and well tolerated, this invasive procedure is not routinely available in all hospitals and it does not particularly enable long-term monitoring. Recently many non-invasive approaches have been studied for evaluation of portal hypertension in patients with liver cirrhosis.

The aim was to assess usefulness of spleen elastography in the evaluation of portal hypertension in patients with liver cirrhosis.

1. Classical HVPG measurement using wedged balloon technique
2. Spleen elastography using ARFI (Siemens Acuson S2000)

We examined 25 consecutive patients (18 men, 7 women), with average age 56.7 years with liver cirrhosis of various etiology (13 alcoholic, 5 viral hepatitis, 5 NAFLD, 2 other). Diagnosis of cirrhosis was confirmed either with liver biopsy or with presence of portal hypertension. A control group consisted of 20 age-matched healthy individuals.

Every patient underwent standard biochemistry and blood count, abdominal ultrasound and elastography of liver and spleen (median of ten measurements) using ARFI (Acoustic Radiation Force Impulse) measurement with ultrasound system Siemens Acuson S2000. HVPG was afterwards measured in every patient.

Clinicaly significant portal hypertension (HVPG>12mmHg) was diagnosed in 20 patients. The HVPG values were (mmHg; median, IQ range) 16.0 (4–26), ARFI of liver (m/s; median, IQ range) 2.817, ARFI of spleen (m/s; median, IQ range) 3.14.

The value of spleen stiffness significantly correlated with HVPG (p=0.003), liver stiffness did not (p=0.163). Another parameter which correlated with HVPG was the length of the spleen (p=0.033).

The spleen ARFI measurement using ARFI is simple, reproducible and easy to repeat non-invasive method for evaluation of portal hypertension in cirrhotic patients.


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References