

patients with insulin-treated DM. Overall survival rates during a follow-up of 18 months were determined.

Results: Eighty-five (19.7%) patients presented insulin-treated DM at baseline (50 in the SMT and 35 in the SMT+HA arm respectively). At baseline, diabetic patients who received long-term HA did not significantly differ from those randomized to SMT, as regards age, etiology of cirrhosis, body mass index (BMI), Child-Pugh class, and MELD score. During the follow-up, 39 patients ended the study prematurely (17 of them for medically uncontrolled ascites requiring at least 3 paracenteses per month, 14 in the SMT and 3 in the SMT+HA arm), and 16 died (12 in the SMT and 4 in the SMT+HA arm, respectively). Among the latter, 13 patients died for liver-related causes (10 [83%] in the SMT and 3 [75%] in SMT+HA arm, respectively). 18-month overall survival improved significantly in the patients enrolled in the SMT+HA arm (86% [95%CI: 66-95] vs 57% [95%CI: 35-74], log-rank $p=0.016$) with a 72% risk reduction for mortality (Hazard Ratio 0.27 [95%CI 0.09 – 0.85], $p=0.025$).

Conclusions: Long-term HA administration appears a beneficial therapeutic intervention that improves survival in insulin-treated diabetic outpatients with decompensated cirrhosis and ascites.

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The role of 2D-Shearwave elastography in non invasive portal hypertension diagnosis

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Introduction and Objective: The gold standard for the diagnosis of clinically significant portal hypertension is represented by HVPG and Upper Gastrointestinal endoscopy is able to indirectly assess the degree of portal hypertension through the evaluation of esophageal and/or gastric varices. Over the last 20 years, the introduction of non invasive tests (NITs) such as Fibroscan has made it possible to select patients with significant portal hypertension and therefore identify patients eligible for endoscopy. The BAVENO VII consensus identifies patients who could benefit from endoscopy as those patients with LSM ≥ 20 kPa assessed by TE and platelet count $\leq 150 \times 10^9/L$. Moreover, it identifies values of spleen stiffness to rule in and rule out portal hypertension such as SSM >50 kPa and SSM <21 kPa, respectively. Point-shear wave elastography and 2D-shear wave elastography have been proposed as possible tools to non-invasively assess portal hypertension, but validation of the best cut-off is needed. Aim of this study is the evaluation of the role of 2D-Shear wave in non invasive diagnosis of portal hypertension.

Methods: From April 2022 to October 2023 we evaluated one hundred patients with chronic hepatitis and cirrhosis (50 chronic hepatitis and 50 cirrhosis) whose baseline characteristics are presented in TABLE 1. All patients underwent abdominal ultrasound, liver and spleen stiffness (LS and SS) and liver and spleen 2D-shear wave (L2D-S and S2D-S); FIB-4 and the APRI score were also calculated. All cirrhotic patients underwent endoscopy to evaluate portal hypertension.

Results: The prevalence of varices in cirrhotic patients was 50%. We found a statistically significant correlation between LS and SS

($p<0,001$) and L2D-S and S2D-S ($p<0,001$) and the presence of varices, this was true also for APRI and FIB-4 ($p<0,001$), independently from age, sex and BMI. We evaluated also the diagnostic performance for each individual test (Table 2), with an optimal cut-off of 13.1 kPa and 12.5 kPa for LS and L2D-S (sensitivity 0.83 and 0.79, specificity 0.72 and 0.77, PPV 0.50 and 0.54, NPV 0.93 and 0.92 and AUROC 0.84 and 0.83 respectively), 45 kPa and 25 kPa for SS and S2D-S (sensitivity 0.77 and 0.91, specificity 0.89 and 0.66, PPV 0.69 and 0.47, NPV 0.92 and 0.96 and AUROC 0.88 and 0.80 respectively), 2.82 for FIB-4 (sensitivity 0.84, specificity 0.74, PPV 0.52, NPV 0.93 AUROC 0.80), 0.64 for APRI (sensitivity 0.72, specificity 0.70, PPV 0.44, NPV 0.88 AUROC 0.74). Each single test showed a low PPV for the prediction of oesophageal varices (OV), however, when we combined the tests together we found that the combination of LS and S2D-S showed a higher PPV for predicting OV (PPV 0.73; NPV 0.99).

Conclusion: We found that the combination of two tests (Liver stiffness and Spleen stiffness 2D-Shear wave) increases the probability of finding esophageal varices and therefore can be useful for the non-invasive identification of patients with clinically significant portal hypertension.

Table 1.

Patients characteristics

	Chronic Hepatitis (50, 50%)	Cirrhosis (50, 50%)	p
Sex (male %)	33 (66%)	33 (66%)	1**
Age y (mean \pm SD)	60,68 \pm 11,63	65,46 \pm 11,33	0,06*
BMI (Kg/m ² means \pm SD)			
Etiology			0,072**
Viral	26 (52%)	23 (46%)	
Metabolic	15 (30%)	24 (48%)	
Autoimmune	9 (18%)	3 (6%)	
AST U/l (mean \pm SD)	53,81 \pm 119,44	41,48 \pm 32,04	0,409*
ALT U/l (mean \pm SD)	65,50 \pm 173,33	34,94 \pm 29,11	0,607*
PLT mmc (mean \pm SD)	217875 \pm 82284	145040 \pm 111323	<0,001*
APRI	0,98 \pm 2,41	1,61 \pm 3,38	0,002*
FIB-4	2,38 \pm 2,66	5,83 \pm 11,12	<0,001*
Portal vein diameter (mm)	10,82 \pm 1,84	13,52 \pm 2,71	<0,001*
Spleen diameter (cm)	10,61 \pm 1,65	14,17 \pm 2,60	<0,001*
Spleen volume (cm ³)	38,89 \pm 7,92	39,8 \pm 59,24	<0,001*
Liver Stiffness (Fibroscan ®)	8,78 \pm 10,73	25,38 \pm 19,71	<0,001*
Spleen Stiffness (Fibroscan ®)	22,87 \pm 14,05	46,83 \pm 21,82	<0,001*
Liver Stiffness (2-D Shearwave)	7,74 \pm 4,85	25,38 \pm 19,71	<0,001*
Spleen Stiffness (2-D Shearwave)	31,54 \pm 54,7	37,13 \pm 57,74	<0,001*
Oesophageal Varices			<0,001*
Absent	50 (100%)	25 (50%)	
Present	0 (0%)	25 (50%)	

*Mann-Whitney U-Test

**Chi-Square Test

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Accuracy of a dedicated 100 Hz vibration-controlled spleen stiffness measurement for the detection of esophageal varices in naïve patients with compensated advanced chronic liver disease: interim results from a multicentric cohort

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Introduction: Clinically significant portal hypertension (CSPH) marks a critical step in the natural history of compensated advanced chronic liver disease (cACLD) and may lead to esophageal varices (EV). The Baveno VI criteria suggest liver stiffness measurement (LSM) and platelet count (PLT) for non-invasive identification of cACLD patients not requiring screening gastroscopy.

Aim: We investigated the accuracy of the novel 100 Hz vibration-controlled transient elastography-based spleen stiffness measurement (SSM) exam for the identification of EV in cACLD patients.

Materials and Methods: Retrospective study of Mainz, Vienna, Leuven, Rome and Palermo. Patients with cACLD of any etiology (LSM \geq 10kPa or histological F4 fibrosis), but without previous decompensation (bleeding, encephalopathy, ascites) were included. SSM and LSM were obtained using Fibroscan F630 \leq 1 month within screening gastroscopy. Prediction performance between different SSM cut-offs with respect to the Baveno criteria (LSM $>$ 20kPa and/or PLT $<$ 150 G/L) were compared by logistic regression with 10-fold cross-validation, adjusted for age, gender, BMI, transaminases, INR, albumin, and bilirubin. Backward feature selection based on likelihood ratio test was applied to identify significant confounders. Performance was calculated by balanced accuracy (BA), specificity (SP) and sensitivity (SE). Wilcoxon test was used to evaluate significant performance improvement of SSM cut-offs with respect to Baveno criteria, or to significant confounders.

Results: 343 cACLD patients with a median age of 59 years (60.3% male) and NAFLD as the main etiology (51.3%) were included. 137 had EV with 49 high-risk EV (HR-EV), while median SSM, LSM and PLT were 40.5kPa, 21kPa and 139 G/L, respectively. The figure shows BAs at different SSM cut-offs, compared to Baveno (red line). The best overall performance with all-type EV was at SSM=60 kPa (BA=0.72, SP=0.86, SE=0.58); Baveno: BA=0.66, SP=0.86, SE=0.39. Comparing HR-EV vs. absence of EV, the best cut-off was at 50kPa (BA=0.71, SP=0.95, SE=0.47; Baveno: BA=0.56, SP=0.92, SE=0.29). These SSM thresholds significantly improved BA when significant confounders were considered.

Conclusions: The novel spleen-dedicated 100 Hz SSM is associated with presence of EV in cACLD patients. In both all-type EV and HR-EV, SSM showed better accuracy than the Baveno LSM-PLT criteria, achieving a better trade-off between SP and SE.

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F-12

Episodic overt hepatic encephalopathy after transjugular intrahepatic portosystemic shunt does not increase mortality in patients with cirrhosis

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Background and Aims: In patients with cirrhosis, transjugular intrahepatic portosystemic shunt (TIPS) is indicated for the prophylaxis of variceal re-bleeding and treatment of refractory ascites. Overt hepatic encephalopathy (OHE) is a major complication after TIPS, given its high incidence and possibility of refractoriness to medical treatment. Nevertheless, the impact of post-TIPS OHE on mortality has not been investigated in a large population.

Methods: We designed a multicenter non-inferiority observational study to evaluate the mortality rate at 30 months in patients with and without OHE after TIPS. We analyzed a database of 614 patients submitted to TIPS in three Italian centers and estimated the cumulative incidence of OHE and mortality with competitive risk analyses, setting the non-inferiority limit at 0.12.

Results: During a median follow-up of 30 months (IQR 12-30), 293 patients developed at least one episode of OHE. Twenty-seven (9.2%) of them experienced recurrent/persistent OHE. Patients with OHE, compared to those without, were older [64(57-71) vs 59(50-67) years, $p<0.001$], had lower albumin [3.1(2.8-3.5) vs 3.25(2.9-3.6) g/dl, $p=0.023$], and had a higher prevalence of pre-TIPS OHE (15.4% vs. 9.0%, $p=0.023$). Child-Pugh and MELD scores were similar between the two groups. The 30-month difference in mortality between patients with and without post-TIPS OHE was 0.03(95% CI: -0.042 - 0.102). Multivariable analysis showed that age [sHR 1.04 (1.02 -1.05), $p<0.001$] and MELD [sHR 1.09 (1.05;1.13), $p<0.001$], but not post-TIPS OHE, were associated with a higher mortality rate. Similar results were obtained when patients undergoing TIPS for variceal re-bleeding prophylaxis ($n=356$) or refractory ascites ($n=258$) were analyzed separately. The proportion of patients with persistent OHE after TIPS was significantly higher in the group of patients who died.

Conclusion: Episodic OHE after TIPS does not increase mortality in patients undergoing TIPS, regardless of the indication.

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Predictors of clinical trajectories in patients surviving an acute decompensation of cirrhosis

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Background: three different clinical trajectories have been described in patients surviving an acute decompensation of cirrhosis, namely stable decompensated cirrhosis (SDC), unstable decompensated cirrhosis (UDC) and pre-ACLF. The identification of these patients could be crucial in their clinical management, however, predicting the clinical course at time of discharge is challenging.

Aim: To investigate predictors of clinical course after discharge for AD and 180-day mortality.