

Body Composition Is Modified after TIPS Insertion for Severe Portal Hypertension

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Abstract Text

Background: Sarcopenia is associated with mortality in severe liver disease. One study has suggested its reversibility after correction of hepatic venous pressure gradient by TIPS insertion. Computed tomography (CT) scan is a reliable tool to evaluate body composition changes.

Aims: to evaluate changes in sarcopenia and fat distribution after TIPS insertion by radiological sequential analysis.

Methods: All cirrhotic patients who underwent TIPS placement for elective indication in a single center (i.e. refractory ascites and secondary prophylaxis of portal hypertension related GI bleeding (SPGIB)) have been retrospectively included between July 2011 and March 2017. Sequential recording of clinical, biological and radiological data have been realized at 1, 3 and 6 months after TIPS placement.

Results: 132 patients were included. Alcohol was the main cause of cirrhosis (84.1%, n=111). Median age was 58.5 (IQR 52.8-63.3) years, MELD score 10.7 (8.5-13.2) and Child-Pugh score 8 (7-8). Refractory ascites in 71.2% (n=98) and SPGIB in 28.8% (n=38) were the indications for TIPS placement. 6-month survival was 84.8 and 97.3% respectively (p=NS). Sarcopenia improved at 3 and 6 months after TIPS as shown by an increase in umbilical level psoas axial diameter (AD) from 42.5 to 45.4 mm (p<0.0001), psoas transverse diameter (TD) from 33.8 to 37.2 mm (p<0.0001), and L3-L4 intervertebral level sum of psoas area from 2017.7 to 2249 mm² (p<0.0001). Such improvement was not observed in patients who developed TIPS thrombosis as compared to those who did not: TD 33.6 to 34.2 mm (p=0.63) vs. 34.3 to 38.1 mm (p<0.0001), AD 40.7 to 41 mm (p=0.86) vs. 43.7 to 46.6 mm (p<0.0001), sum of area 1868.9 to 1869.2 mm² (p=0.99) vs. 2083.3 to 2333.8 (p<0.0001). From baseline to 3 and 6 months, subcutaneous fat (SCF) increased from 163.8 cm² to 225.1 cm² (p<0.0001) and visceral fat (VF) decreased from 158.6 cm² to 143.7 cm² (p=0.02). At 6 months, SCF increased from 174.8 to 225.2 cm² (p<0.0001) and VF decreased from 152.5 to 130.8 cm² (p=0.002) in patients without TIPS thrombosis. In the others, VF decreased from 207.3 to 180.3 cm² (p=0.03) without significant increase of SCF from 207.4 to 231.5 cm² (p=0.13). In multivariate analysis, at time of TIPS placement, VF (RR 1.007 95% CI 1.002-1.01, p=0.005), TD (RR 0.9, 0.85-0.96, p=0.001), and MELD score (1.15, 1.04-1.28, p=0.007) were associated with 6-month mortality.

Conclusion: Elective insertion of TIPS leads to a rapid improvement in sarcopenia, an increase in SCF and a decrease in VF, depending its permeability. Sarcopenia at TIPS insertion predicts 6-month mortality.

Disclosures

Sebastien Dharancy – Intercept: Board Membership; Novartis: Speaking and Teaching; Nanobiotix: Advisory Committee or Review Panel; Abbvie: Speaking and Teaching; Astellas: Speaking and Teaching; Chiesi: Board Membership

The following people have nothing to disclose: Guillaume Lassailly, Alexandre Louvet

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