



Reply to: “The clinical advantage of fixed 8-mm diameter VCX stents over underdilated VTS stents is not established in refractory ascites”

Patient selection for TIPS stent insertion determines outcome, while its diameter only optimizes the effect

To the Editor:

We appreciate Mansour *et al.*'s interest in our recent prospective case-control study published in *JHEP Reports*.^{1,2} The group presents retrospective and uncontrolled data suggesting that underdilation (to 8 mm) of VIATORR[®] controlled expansion (VCX) stents are as ineffective as legacy VIATORR[®] transjugular intrahepatic portosystemic shunt (TIPS) stents (VTS) for the treatment of refractory ascites (53–64% recurrence), with a high rate of hepatic encephalopathy (HE) (47–57%) and mortality (61%).

In order to avoid such results, the EASL Clinical Practice Guidelines on decompensated cirrhosis recommend TIPS earlier in the course of disease for patients with ascites, and not to wait until patients have severe liver dysfunction.³ In these advanced patients, TIPS may also be placed, but as a bridging therapy to liver transplant. This is probably also the case in the cohort presented by Mansour and colleagues, although this is very difficult to appreciate, since the data presented in the letter were

very limited, with even model for end-stage liver disease (MELD) score missing. Yet, it is clear that TIPS should not be used as the last resort, but as an efficient treatment within a window of opportunity in order to reduce morbidity and mortality.⁴

In Mansour's cohort, patients in the VCX stent and VTS group were neither matched nor prospectively studied. Although the characteristics are described as “similar”, distribution of MELD scores, Child-Pugh scores, liver function, age, sex and other risk factors are not provided between the two groups. Strikingly, more than one-third ($n = 12$, 38%) of 32 patients with VCX stents were revised and dilated to full 10 mm diameter, leaving only 20 patients in the 8 mm VCX arm, rendering the sample size of this study absolutely insufficient to draw any conclusions on outcome. The reasons for dilation and whether complications occurred before or after the dilation remain obscure. Of note, only 5 of 46 patients (11%) in the VTS group were revised and dilated to full 10 mm diameter, confirming our assumption that the passive dilation is missing in VCX arm dilated at 8 mm compared to VTS.

Since our study included a cohort with mixed indication (variceal bleeding and refractory ascites), we performed sub-

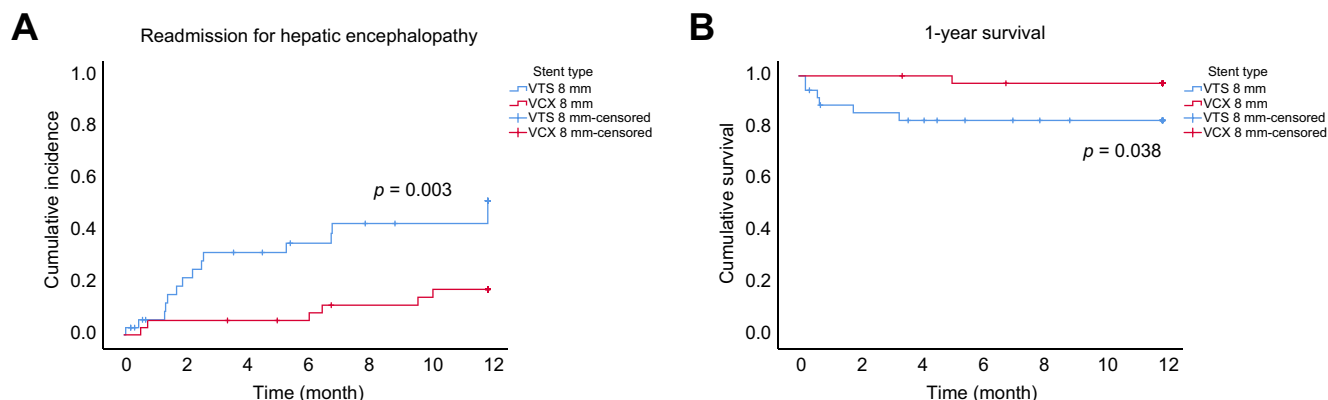


Fig. 1. Cumulative incidence of readmission for HE and survival curve for 1-year mortality. (A) Cumulative incidence of readmission for HE and (B) Kaplan-Meier survival curve for 1-year mortality in subgroup of patients with refractory ascites as indication for TIPS. VTS (blue) vs. VCX (red) nominal 10 mm diameter stents underdilated to 8 mm. p value by log-rank. HE, hepatic encephalopathy; TIPS, transjugular intrahepatic portosystemic shunt; VCX, VIATORR[®] controlled expansion; VTS, VIATORR[®] TIPS stents.

Keywords: cirrhosis; liver; acute decompensation; transjugular intrahepatic portosystemic shunt; TIPS; hepatic encephalopathy; ascites.

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group analysis of our patients with refractory ascites ($n = 72$, VCX and VTS matched for age, sex, etiology of cirrhosis, previous episodes of HE and MELD). Median age was 58 (23–81) years and median MELD was 11. Alcohol-related liver disease was the most

common aetiology (78%). Time to event analysis for readmission for HE as well as Kaplan–Meier survival analysis at 1 year shows significantly improved outcomes in the VCX group (Fig. 1A and B). These results, in particular on HE, seem in line with previous reports comparing nominal 8 and 10 mm diameter TIPS stents.^{5,6}

In conclusion, stent diameter is one parameter in the multifactorial equation that determines treatment-related outcomes

after TIPS. The letter by Mansour and colleagues is important to demonstrate that specialized care including meticulous patient selection and careful follow-up are necessary in order to achieve excellent results. Better stent-grafts can optimize results, but are no replacement for sound clinical judgement and are certainly not the magic bullet for the treatment of refractory ascites.

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Conflict of interest

All authors declare no conflict of interests.

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Authors' contributions

MP, AW: acquisition of data, analysis and interpretation of data, drafting of the manuscript, critical revision of the manuscript regarding important intellectual content, statistical analysis. FS, JCGP, MM: analysis and interpretation of data, critical revision of the manuscript regarding important intellectual content. JT: study concept and design, acquisition of data, analysis and interpretation of data, drafting of the manuscript, critical revision of the manuscript regarding important intellectual content, funding recipient, administrative, technical and material support, study supervision.

Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jhepr.2021.100349>.

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