

Puzzle Solved! Converting the UnTIPSable to TIPSable by Adding Transmesenteric Access to the Toolbox for Patients with Chronic Portal and Mesenteric Vein Thrombosis

Riad Salem¹  · Allison Reiland¹ · Bartley Thornburg¹

Received: 11 July 2023 / Accepted: 14 July 2023 / Published online: 28 August 2023

© Springer Science+Business Media, LLC, part of Springer Nature and the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) 2023

In this month's issue of CVIR, Steffan et al. report on their experience with splenic and mesenteric intervention with a timely review of advances in splenic and mesenteric access for application in patients with chronic portal vein thrombosis [1]. Using the splenic and mesenteric accesses (superior and inferior mesenteric veins), they were able to decompress portal hypertension by placing a TIPS using this novel access method. They conclude that this approach is safe, with no bleeding complications, no risk to bowel, and should be added to the toolbox of the interventional radiologist when confronted with complex portal occlusions requiring decompression. This paper adds to the existing body of literature [2].

When it comes to percutaneous decompression of portal hypertension (PHTN) and its associated sequelae (e.g., bleeding), the portal and mesenteric venous circulation should be considered a 3-piece puzzle with the confluence of the portal (PV), splenic (SV) and superior/inferior mesenteric veins (SMV/IMV) as the isocenter. The components of the puzzle include: (1) liver-main PV-isocenter, (2) spleen-SV-isocenter and (3) SMV/IMV-isocenter. It is the latter and final piece that has now been recognized as a valuable and essential component of PHTN interventions that should be formally adopted.

While early approaches to mesenteric intervention involved surgical assistance with patients initiated in the OR and/or transferred to IR, this is no longer necessary. Modern techniques using ultrasound and fluoroscopy permit direct percutaneous access within the angiography suite, the environment ideally suited for challenging procedures given access to high-end interventional wires, catheters and devices. In this setting, by using a combination of percutaneous transhepatic access, trans-splenic access, and now transmesenteric access, complex PHTN cases can be undertaken with the interventional radiologist “solving the puzzle” component-by-component. In effect, using this “puzzle” approach converts the classically “untipsable” case to feasibility.

The authors are to be commended for further providing validating technical evidence of the reproducibility of the technique. Direct mesenteric access is simple, safe and feasible for interventional radiologists and represents a major advancement in complex PHTN management.

Funding Not applicable.

✉ Riad Salem
r-salem@northwestern.edu

Allison Reiland
areiland@nm.org

Bartley Thornburg
bartley.thornburg@northwestern.edu

¹ Northwestern Memorial Hospital, Northwestern University, Chicago, IL, USA

Declarations

Conflict of interest None.

Ethical Approval Not applicable.

Informed Consent Not applicable.

Consent for Publication Approved.

References

1. Steffen DA, Najafi A, Binkert CA. Safety of Percutaneous Transmesenteric and Transsplenic Access for Portosystemic Shunt Creation in Patients with Portal Vein Obstruction: Single-Center Experience and Review of Literature. *Cardiovasc Intervent Radiol* (2023). <https://doi.org/10.1007/s00270-023-03484-0>
2. Entezari P, Riaz A, Thornburg B, Salem R. Percutaneous ultrasound-guided superior and inferior mesenteric vein access for portal vein recanalization-transjugular intrahepatic portosystemic shunt: a case series. *Cardiovasc Interv Radiol*. 2021;44:496–9. <https://doi.org/10.1007/s00270-020-02713-0>.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.