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LETTER TO THE EDITOR

What's in a Name? A TIPS Conundrum

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Portal hypertension is a common sequela of cirrhosis that develops due to increased portal venous pressure. Raised venous pressures are attributed to architectural distortion and fibrosis, leading to a hepatofugal flow pattern. Patients with portal hypertension commonly present with variceal bleeding or ascites.

Transjugular intrahepatic portosystemic shunt (TIPS) is a procedure in which the portal vein (PV) is punctured from the hepatic vein (HV) via the hepatic parenchyma and an artificial communication channel is created between the two veins (**Figure 1**). TIPS relieves the raised portal pressure and converts the flow pattern from hepatofugal to hepatopetal. The abbreviations *TIPS* or *TIPSS* are quite catchy and are frequently used interchangeably.

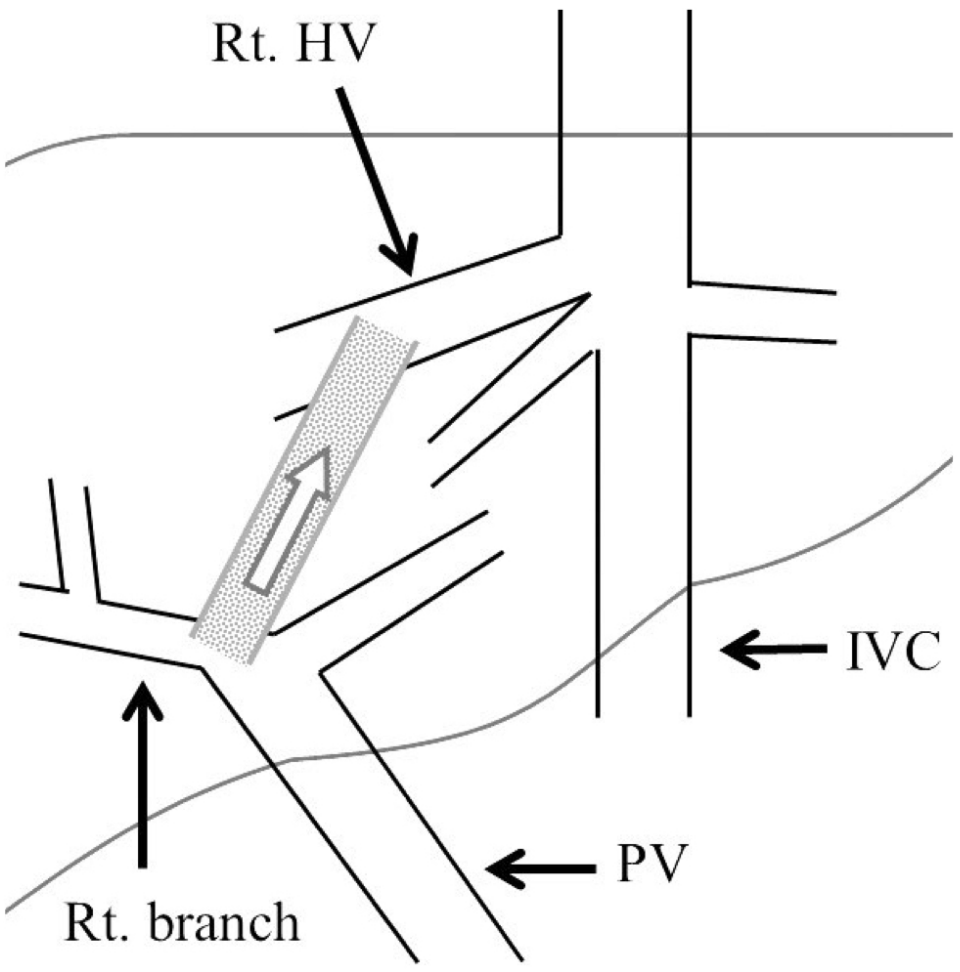

Figure 1. Transjugular intrahepatic portosystemic shunt procedure. Rt, right; PV, portal vein; HV, hepatic vein; IVC, inferior vena cava.

Like many medical procedures, TIPS has stood the test of time and has undergone changes over a few decades. Rösch et al first coined the terminology for TIPS after a successful experimental study to a create a shunt between the PV and the HV (portosystemic shunt).[1] In 1982, Colapinto et al presented the first human model by creating a track with balloon dilation of the hepatic parenchyma between the PV and the hepatic vein.[2] The procedure continued to improve both technical and clinical outcomes with further development and the use of vascular stents.[3-6] It was the Palmaz stent that had higher success when deployed in high-risk patients for portal hypertension and variceal bleeds.[6] The continuous evolution of the procedure and the unabating use of different abbreviations was continued by various groups.

The gun-sight approach to perform the procedure was first reported by Haskal et al in 1996.[7] By this time, several references to a direct transcaval shunt had been made; however, it was considered a modified form of TIPS. During this evolving phase, Petersen et al[8] created the terminology for direct intrahepatic portocaval shunt (DIPS), which was considered a subvariant of TIPS. The procedure involved puncturing the PV directly from the inferior vena cava (IVC) with the aid of intravenous ultrasound (IVUS), which was placed via a transfemoral venous route (**Figure 2**). The same terminology (DIPS) was used when a tract was created between the IVC and the PV in patients with Budd-Chiari syndrome with the help of transabdominal ultrasound (US) guidance.[9] Transabdominal US was helpful in further reducing the radiation dose.[10] Thus, a rhyming conundrum was created between DIPS and TIPS.

Our literature review shows ambiguity in the terminology that is used interchangeably and without clarity on several key details, including (a) initial access, (b) the path taken to create the shunt, (c) the use of abdominal US/IVUS, and (d) the structures the shunt is created between.

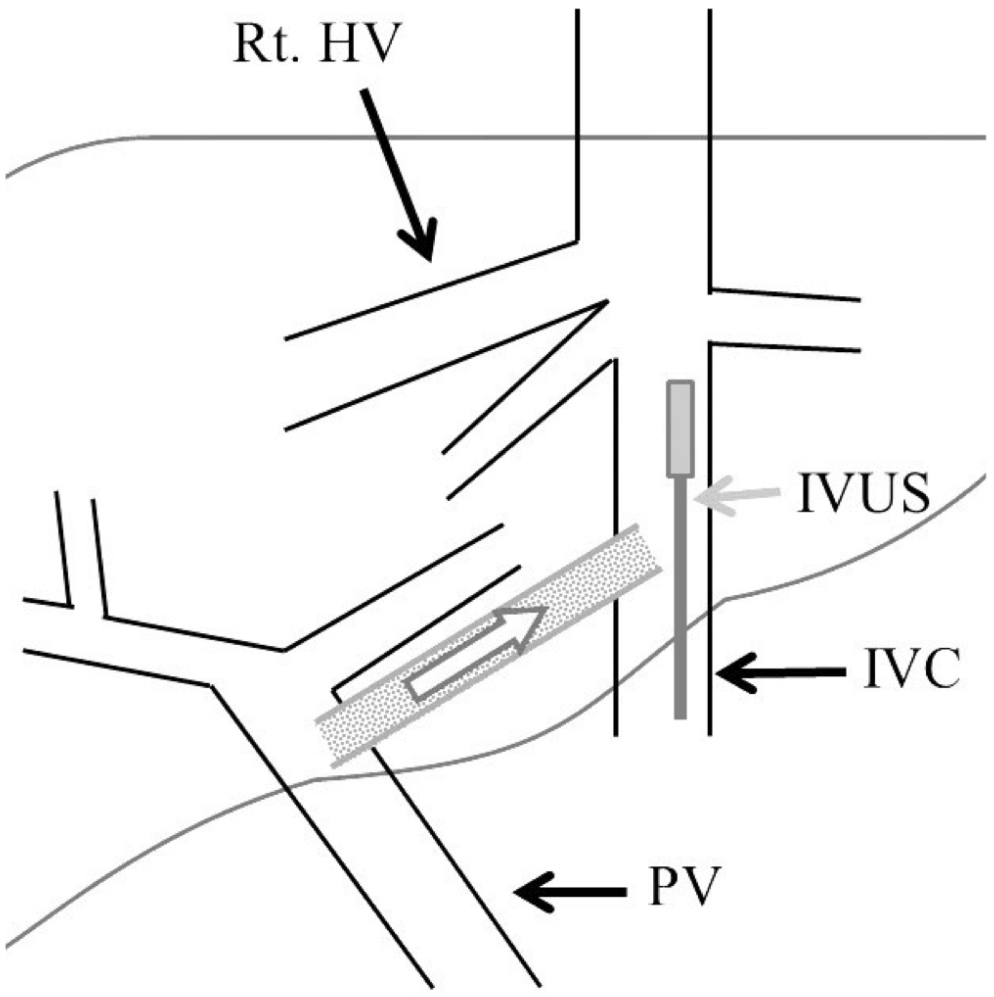

Figure 2. Direct intrahepatic portocaval shunt (DIPS). Rt, right; PV, portal vein; HV, hepatic vein; IVC, inferior vena cava; IVUS, intravascular ultrasound.

The abbreviation *TIPS* is not representative of the procedure, as it does not truly represent the access used while creating a shunt. Though the expansion mentions transjugular, other venous access points, such as transfemoral access, have been used by some authors with the same abbreviation (TIPS).[11-13] A term such as *transfemoral TIPS* is incorrect, as the *T* in this abbreviation represents *transjugular*, which is highly contradictory.

The classic abbreviation of TIPS does not lay any special emphasis on the path taken, and all tracts are considered intrahepatic, regardless of whether they are created via the hepatic vein or the vena cava.

As all shunts are created using a polytetrafluoroethylene graft stent, which is placed between the PV and the IVC, the *P* in this abbreviation should represent *portocaval*, not *portosystemic*.

A TIPS procedure is a minimally invasive, nonsurgical procedure, in contrast with a surgical shunt with a similar indication such as a spleno-renal shunt. However, there is no representation of image guidance in the abbreviation and expansion. Many operators use transabdominal US or IVUS guidance to navigate the puncture safely. IVUS has been used mostly to perform a DIPS procedure.

Readers need to be aware of the inconsistency in the literature regarding the abbreviations *TIPS*, *DIPS*, and their expansions. An ideal umbrella terminology would be image-guided intrahepatic portocaval shunt (IIPS), which includes all the common minimum key words related to the image guidance and the intrahepatic tract. An extension to the abbreviation, such as *IIPS-J* or *IIPS-F* (*J* for jugular and *f* for femoral), should also be considered to allow clarity to the reader regarding the initial access taken. We believe the new abbreviation would allow the reader an immersive and coherent imagining of the procedure performed. However, it is difficult to fix the inconsistency retrospectively, as the catchy terminologies have been quoted extensively. ■

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