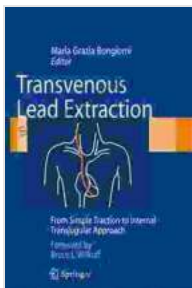


From Simple Traction to Internal Transjugular Approach: A Comprehensive Guide for Interventional Neuroradiologists

Interventional neuroradiology (INR) is a rapidly evolving field that offers minimal invasive treatment options for a wide range of cerebrovascular disorders. Among these techniques, the transjugular intrahepatic portosystemic shunt (TIPS) procedure stands out as a cornerstone treatment for portal hypertension and its complications. This article aims to provide a comprehensive overview of the evolution of TIPS, from its humble beginnings as a simple traction technique to the current state-of-the-art internal jugular vein (IJV) approach.

Historical Perspective

The concept of creating a shunt between the portal and systemic circulations to alleviate portal hypertension dates back to the early 20th century. In 1945, Rousselot and Mouchet performed the first successful TIPS procedure using a transjugular approach, involving direct puncture of the IJV and subsequent creation of a shunt through the liver parenchyma. However, this technique was technically challenging and associated with a high risk of complications.



Transvenous Lead Extraction: From Simple Traction to Internal Transjugular Approach by Mhairi McFarlane

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In the 1970s, Colapinto and colleagues introduced the "simple traction" technique, which involved inserting a needle into the IJV and advancing it into the hepatic vein. A guidewire was then passed through the needle and used to create a tract between the IJV and the hepatic vein. A stent was then placed across the tract to maintain patency. This technique simplified the TIPS procedure and reduced the risk of complications, making it more widely accessible.

The Internal Jugular Vein Approach

The IJV approach to TIPS gained popularity in the 1990s. This approach involves accessing the IJV directly, rather than through the hepatic vein. This allows for more precise placement of the stent and reduces the risk of bleeding. The IJV approach also facilitates the use of larger stents, which are associated with improved patency and fewer complications.

Current State-of-the-Art

Today, the IJV approach is the preferred method for TIPS placement. Interventional neuroradiologists use advanced imaging techniques, such as fluoroscopy and computed tomography (CT), to guide the procedure. The procedure is typically performed under local anesthesia, with intravenous sedation.

The TIPS procedure involves several steps:

1. Accessing the IJV 2. Puncturing the liver parenchyma 3. Creating a tract between the IJV and the hepatic vein 4. Placing a stent across the tract

The stent is designed to maintain patency of the shunt, allowing blood to flow from the portal vein to the systemic circulation.

Clinical Applications

TIPS is indicated for the treatment of a variety of conditions that lead to portal hypertension, including:

* Cirrhosis * Budd-Chiari syndrome * Portal vein thrombosis * Ascites * Variceal bleeding

TIPS can effectively reduce portal pressure, relieve symptoms, and improve survival.

Complications and Management

As with any invasive procedure, TIPS is associated with potential complications, including:

* Bleeding * Infection * Stent thrombosis * Hepatic encephalopathy

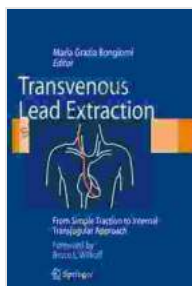
These complications can usually be managed with medication or additional procedures.

The TIPS procedure has come a long way since its humble beginnings as a simple traction technique. The current state-of-the-art IJV approach is a safe and effective treatment option for portal hypertension. Interventional neuroradiologists play a critical role in the management of these patients,

providing minimally invasive solutions that improve their quality of life and survival.

Call to Action

This article provides an overview of the evolution of the TIPS procedure, from simple traction to the internal jugular vein approach. If you are a physician or healthcare professional involved in the care of patients with portal hypertension, we encourage you to consider the TIPS procedure as a treatment option. Please contact our team of experienced interventional neuroradiologists to learn more about TIPS and how it can benefit your patients.



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