

# INPLASY PROTOCOL

To cite: Yang et al. Comparison between Transjugular Intrahepatic Portosystemic Shunt and Endoscopic Therapy for Prevention of Variceal Re-bleeding: A Meta-Analysis of Randomized Controlled Trials. Inplasy protocol 2022110142. doi: 10.37766/inplasy2022.11.0142

Received: 27 November 2022

Published: 27 November 2022

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**Review Stage at time of this submission:** Completed but not published.

**Conflicts of interest:**  
None declared.

## Comparison between Transjugular Intrahepatic Portosystemic Shunt and Endoscopic Therapy for Prevention of Variceal Re-bleeding: A Meta-Analysis of Randomized Controlled Trials

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**Review question / Objective:** The efficacy and safety of placement of transjugular intrahepatic portosystemic shunts (TIPS) in patients with cirrhosis and acute variceal bleeding is controversial.

**Eligibility criteria:** (1) RCTs that compared TIPS and ET for the prevention of variceal rebleeding in patients with cirrhosis; (2) TIPS and ET (EVL or injection therapy) were after randomization; (3) patients in the included studies were aged 18 years old or older; (4) The prognosis that assessed the effects of treatments included at least one of the following outcomes: the overall mortality, the rate of variceal re-bleeding, the incidence of postoperative HE, and new or worsening ascites.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 November 2022 and was last updated on 27 November 2022 (registration number INPLASY2022110142).

### INTRODUCTION

**Review question / Objective:** The efficacy and safety of placement of transjugular intrahepatic portosystemic shunts (TIPS) in patients with cirrhosis and acute variceal bleeding is controversial.

**Rationale:** Endoscopic therapy (ET), transjugular intrahepatic portosystemic shunt (TIPS) are mainly treatments to prevent variceal bleeding for patients with cirrhosis. This study was to compare the curative effect of TIPS and endoscopic therapy in patients with cirrhosis at variceal bleeding.

**Condition being studied:** This meta-analysis demonstrates that TIPS is superior to endoscopic therapy (ET) in the prevention of variceal rebleeding. Due to a potentially high risk of hepatic encephalopathy (HE) and no apparent benefits of mortality, TIPS must be employed cautiously.

## METHODS

**Search strategy:** “TIPS”, “transjugular intrahepatic portosystemic shunt”, “variceal bleeding”.

**Participant or population:** Patients with cirrhosis and variceal bleeding.

**Intervention:** Transjugular intrahepatic portosystemic shunts(TIPS); Endoscopic therapy (ET).

**Comparator:** Compare the curative effect of TIPS and endoscopic therapy in patients with cirrhosis at variceal bleeding.

**Study designs to be included:** Randomized controlled trials.

**Eligibility criteria:** (1) RCTs that compared TIPS and ET for the prevention of variceal rebleeding in patients with cirrhosis; (2) TIPS and ET (EVL or injection therapy) were after randomization; (3) patients in the included studies were aged 18 years old or older; (4) The prognosis that assessed the effects of treatments included at least one of the following outcomes: the overall mortality, the rate of variceal re-bleeding, the incidence of postoperative HE, and new or worsening ascites.

**Information sources:** PubMed, Embase, Cochrane library and Web of Science (WOS) databases.

**Main outcome(s):** • This systematic review and meta-analysis of 18 studies with 1353 patients found that receiving TIPS at patients with variceal bleeding and cirrhosis are associated with lower risk of variceal rebleeding compared with ET.

- The incidence of encephalopathy lowered in ET group compared with TIPS.
- Subgroup analysis found that early use of TIPS was associated with significant reductions in the incidence of new or worsening ascites and mortality.

**Quality assessment / Risk of bias analysis:** We followed the guidance in the Cochrane Handbook for Systematic Reviews of Interventions to assess the risk of bias in included trials.

**Strategy of data synthesis:** We extracted from all relevant article authors' names, year of publication, country, follow-up period, cause of cirrhosis, Child-Pugh class, stent type for TIPS. The primary outcomes were the number of variceal rebleeding and deaths in each treatment group. Secondary outcomes were post-treatment HE and new or worsening ascites.

**Subgroup analysis:** A subgroup analysis was performed according to length of follow-up and timing of Intervention.

**Sensitivity analysis:** We also performed sensitivity analyses to examine the robustness of the results. All statistical analyses were performed on RevMan.

**Language restriction:** English.

**Country(ies) involved:** China (West China Hospital of Sichuan University).

**Keywords:** Transjugular intrahepatic portosystemic shunt; endoscopic therapy; variceal bleeding; cirrhosis; meta-analysis.

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