



Description of portal hypertension treatment of transjugular intrahepatic portosystemic shunt: a French national hospital database analysis

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BACKGROUND

Liver cirrhosis is the main cause of portal hypertension (PH). Complications are ascites and variceal bleeding, treated by large volume paracentesis (LVP) and endoscopic band ligation (EBL). Both have a significant impact on patients’ survival and quality of life.¹
The complications of cirrhosis are responsible for 1.3 million deaths worldwide every year and rank as the 14th most common cause of death globally and the fourth in Central Europe.²

OBJECTIVE

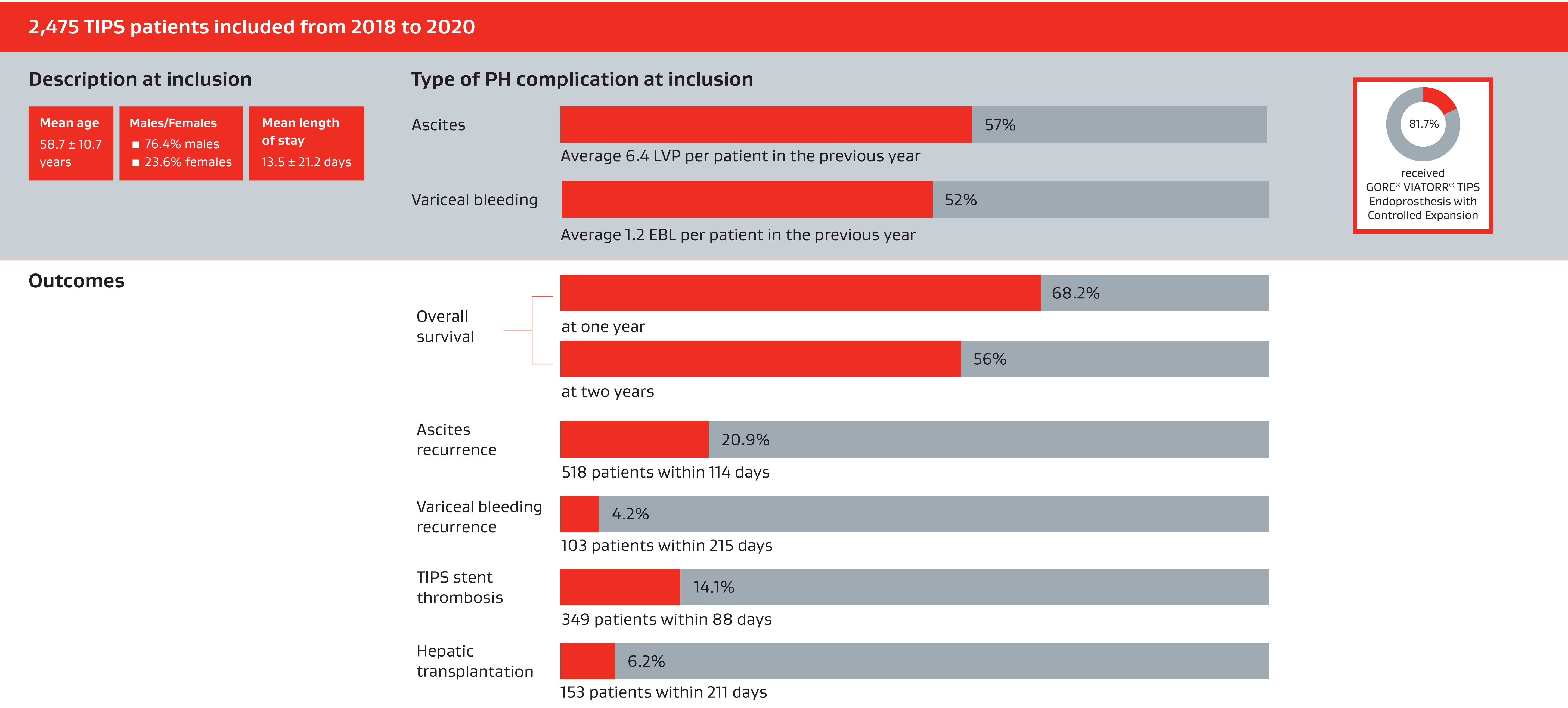
The main objectives of the study are to describe the hospital management of PH treatment by transjugular intrahepatic portosystemic shunt (TIPS) and estimate the burden of ascites and variceal bleeding recurrence.

METHODS

This population-based retrospective cohort study was performed using secondary data from the French exhaustive national hospital discharge database (PMSI). PMSI database includes comprehensive hospital-related claims irrespective to healthcare insurance system or hospital settings (public/private).
Patients who had hospitalization for a TIPS procedure according to the French procedures classification (CCAM, Classification Commune des Actes Médicaux, French Nomenclature for Procedures) between January 1, 2018 and December 31, 2020 were included. Descriptive analyses were performed for characterization of patients and stays.
Among them, each patient included before December 31, 2019, was followed-up for one year after cohort entry date. During follow-up, additional hospitalizations for ascites or variceal bleeding treatments, hepatic transplantation or TIPS stent thrombosis were retrieved, by a combination of diagnosis ICD-10 (International Classification of Diseases 10th Revision) and procedure CCAM codes, and were further described:

Follow-up	Diagnosis ICD-10	Procedure CCAM
Ascites recurrence	Ascites	Large volume paracentesis
Variceal bleeding recurrence	Variceal bleeding	Endoscopic band ligation
Hepatic transplantation		Hepatic transplantation
TIPS stent thrombosis		TIPS angioplasty

RESULTS



CONCLUSIONS

- This is the first real-life analysis of the treatment of PH by TIPS in France performed using a hospital claims database.
- This study confirms that the selection of the TIPS treatment for PH complications impacts the amount of LVP and EBL treatments.
- Overall survival as well as ascites or bleeding-free survival seem lower than observed in several randomized controlled trials.^{3,4} Having a late referral of patients (more than six LVP in the year before TIPS) and patients treated not only by dedicated TIPS endoprotheses in our cohort might explain this result.
- The main limitation of conducting a study on PMSI pertains to the clinical interpretation of the information collected, due to its funding objective.
- Given the forthcoming increase in cirrhosis, it highlights the need to refer patients in time and offer earlier/pre-emptive TIPS. Proper and timely patient selection helps to improve survival, as demonstrated with international guidelines.¹

REFERENCES

1. de Franchis R, Bosch J, Garcia-Tsao G, Reiberger T, Ripoll C; Baveno VII Faculty. Baveno VII - Renewing consensus in portal hypertension. *J Hepatol.* 2022 Apr;76(4):959-974. doi: 10.1016/j.jhep.2021.12.022. Epub 2021 Dec 30. Erratum in: *J Hepatol.* 2022 Apr 14;: PMID: 35120736.
2. Gu W, Hortlik H, Erasmus HP, Schaaf L, Zeleke Y, Uschner FE, et al. Trends and the course of liver cirrhosis and its complications in Germany: Nationwide population-based study (2005 to 2018). *Lancet Reg Health Eur.* 2021 Nov 4;12:100240. doi: 10.1016/j.lanepe.2021.100240. PMID: 34901909; PMCID: PMC8640738.
3. Bureau C, García-Pagán JC, Otal P, Pomier-Layrargues G, Chabbert V, Cortez C, et al. Improved clinical outcome using polytetrafluoroethylene-coated stents for TIPS: results of a randomized study. *Gastroenterology.* 2004 Feb;126(2):469-75. doi: 10.1053/j.gastro.2003.11.016. PMID: 14762784.
4. García-Pagán JC, Caca K, Bureau C, Laleman W, Appenrodt B, Luca A, et al. ; Early TIPS (Transjugular Intrahepatic Portosystemic Shunt) Cooperative Study Group. Early use of TIPS in patients with cirrhosis and variceal bleeding. *N Engl J Med.* 2010 Jun 24;362(25):2370-9. doi: 10.1056/NEJMoa0910102. PMID: 20573925.

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