



TIPS and liver transplantation should always be discussed together

To the Editor:

We read with interest the study by Bettinger *et al.*,¹ proposing a new prognostic model of survival after transjugular intrahepatic portosystemic shunt (TIPS) placement, called the Freiburg index of post-TIPS survival (FIPS). In a large cohort of 1,871 patients with cirrhosis who were candidates for elective TIPS placement (*i.e.* for refractory ascites or secondary prophylaxis of variceal bleeding), the authors reported that age, bilirubin, albumin and creatinine were factors strongly associated with post TIPS survival. Using the regression coefficient of the multivariable model,

they calculated the FIPS: $1.43 \cdot \log_{10}(\text{bilirubin}) - 1.71 \cdot 1/\text{creatinine} + 0.02 \cdot \text{age} - 0.02 \cdot \text{albumin} + 0.81$, a score that enabled the authors to predict 1-year overall survival. The authors identified patients with a poor prognosis after TIPS, for whom TIPS placement should not be proposed (high-risk patients defined by a FIPS >0.96, *i.e.* with a mortality rate of 52%).

The authors adequately concluded that in high-risk patients according to the FIPS score, liver transplantation (LT) should be considered rather than TIPS placement. We were surprised by the low proportion of patients who were finally transplanted

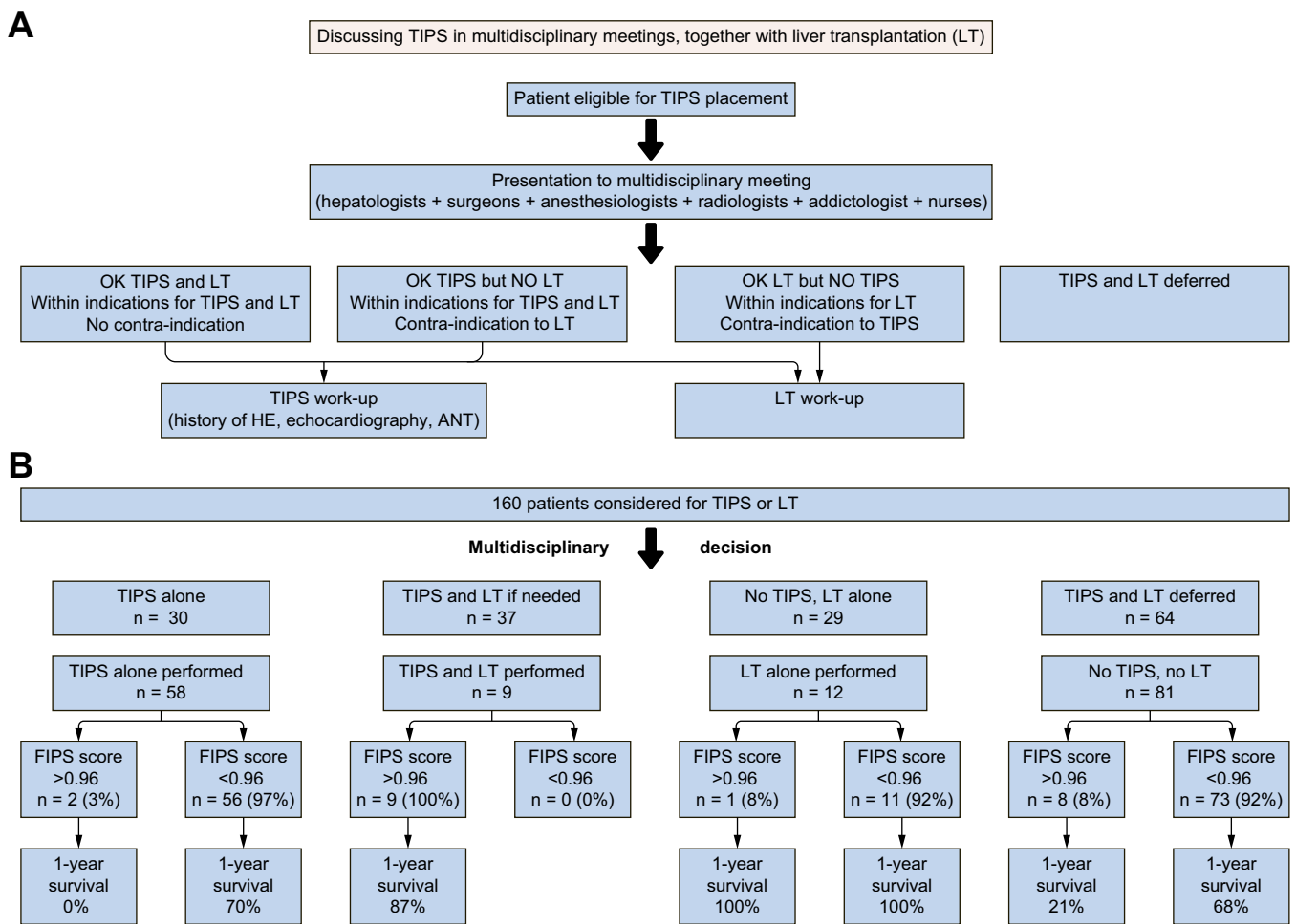


Fig. 1. Multidisciplinary discussion for TIPS and liver transplantation: tools, decision and survival in our team. (A) The multidisciplinary meeting for TIPS and liver transplantation. All patients that are candidates for TIPS placement are discussed for liver transplantation in case of TIPS complications or TIPS failure. (B) 160 patients with an indication of elective TIPS were discussed for the last 3 years. Mortality according the FIPS and the decision for TIPS and or LT is depicted in this figure: survival ranged from 0% to 21% in high-risk patients without LT, when compared to 87–100% if LT was performed. ANT, animal naming test; FIPS, Freiburg index of post-TIPS survival; HE, hepatic encephalopathy; LT, liver transplantation; TIPS, transjugular intrahepatic portosystemic shunt. (This figure appears in color on the web.)

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in this very large series of patients (1.5%), though we totally agree with the author's conclusion and believe that TIPS placement should always be discussed along with LT. In line with this concept, 3 years ago, we began a weekly TIPS/LT multidisciplinary meeting in our department. All patients who are candidates for TIPS placement are discussed during this weekly meeting, for TIPS as well as for LT. If LT is considered as a therapeutic option, then a complete LT work up is initiated before TIPS placement. If not, the patient is indicated for TIPS and contra-indicated for LT. Lastly, in some patients, TIPS is contra-indicated but LT is indicated. The considerations that led us to organize this meeting were that, in some patients, TIPS is complicated by decompensation (such as liver failure) that can translate into a rapid need for LT. However, some patients proposed for TIPS display a contra-indication to LT because of their age or comorbidities. In this situation, we find it more comfortable to discard LT before TIPS placement than to do it after the occurrence of TIPS complications. For the other patients who are eligible for LT, the work up performed for LT enables us to list the patient as fast as needed without losing time, in case of TIPS complications. In both cases, we are able to inform the patient and his family before decisions are taken and weight the indication of TIPS with them. Tools used for decision-making are depicted in Fig. 1A. Briefly, we consider clinical presentation, previous medical history, presence or history of hepatic encephalopathy, age, comorbidities, biochemical/radiological parameters, and access to LT. Then a decision is taken, based on case-by-case multidisciplinary discussion including hepatologists, anesthesiologists, surgeons, nurses and psychiatrists. For the last 3 years, 261 patients with cirrhosis were discussed during this weekly meeting. Among them, 160 displayed an indication for elective TIPS (Fig. 1B): ascites in 96 patients, secondary prophylaxis of bleeding in 33 patients, and TIPS before abdominal surgery in 31 patients. The FIPS score was >0.96 in 20/160 (12.5%) cases. Overall, the indication for elective TIPS placement was validated in 67/160 patients (42%). LT was discussed at the same time in all patients and a complete work up was performed in 66/160 patients (TIPS in 37 patients and then LT if necessary and LT alone in 29 patients). Eventually, LT was required in 21/66 (13%), all with a FIPS >0.96: 9 patients after TIPS placement (after a mean delay of 330 days (22–711) for liver failure in 4 patients, refractory hepatic encephalopathy in 2 patients, persistent ascites in 1 patient and hepatocellular carcinoma in 2 patients) and 11 patients without TIPS placement. In the LT alone group, the cause for LT was ascites in 8 patients and liver failure in 4 patients, after a mean delay of 273 (10–745) days. Fig. 1B summarizes the 1-year survival rate according to the FIPS score in each group of treated patients, confirming the clinical relevance of multidisciplinary discussion: survival ranged from 0% to 21% in high-risk patients without LT, compared to 87–100% if LT was performed.

In conclusion, our data confirm that the FIPS score is useful in selecting patients at high-risk of decompensation after TIPS placement. Intuitively, we selected the same patients in our multidisciplinary staff. Furthermore, we are convinced that TIPS placement and LT should always be discussed together, in order to rapidly offer the best therapeutic options to each patient without being biased in LT decision by the outcome after TIPS.

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Conflict of interest

The authors declare no conflicts of interest that pertain to this work.

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Authors' contributions

Marika Rudler: Study concept, drafting the manuscript. Eric Savier: Study concept, critical review of the manuscript. Imen Alioua: Collection of data. Philippe Sultanik : Study concept. Dominique Thabut: Study concept, drafting the manuscript, critical review of the manuscript.

Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jhep.2021.05.012>.

Reference

- [1] Bettinger D, Sturm L, Pfaff L, Hahn F, Kloeckner R, Volkwein L, et al. Refining prediction of survival after TIPS with the novel Freiburg index of post-TIPS survival. *J Hepatol* 2021;74:1362–1372.

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