LETTER TO THE EDITOR



Response to: Aspirin for patients after TIPS. An old dog with new tricks?

Leon Louis Seifert¹ · Philipp Schindler² · Dominik Bettinger³ · Jonel Trebicka¹ · Moritz Wildgruber^{2,4} · Hauke Heinzow⁵

Received: 21 June 2022 / Accepted: 27 June 2022 / Published online: 29 July 2022 © The Author(s) 2022

To the Editor

We would like to thank Dr. Wang, Dr. Qi and their team for their interest and appreciate the raised issues regarding our study entitled 'Aspirin improves transplant-free survival after TIPS implantation in patients with refractory ascites a retrospective multicenter cohort study' [1].

Despite the retrospective character of our work and the extensive discussion of accompanying limitations, the focused and detailed TIPS programs of our centers reduce potential bias of the presented results.

While liver-specific mortality is important to report, unfortunately we do not have this information for all patients. Yet, all-cause mortality is at least as important, since recently we demonstrated that cirrhosis also as comorbidity multiplies mortality rate [2].

Another important point raised by Wang et al. is the indication of aspirin. However, as recently also in the Baveno VII guidelines is clearly stated that aspirin is beneficial and should be continued in patients with an indication for its use. The same is true for the use of other disease modifying drugs such as statins and non-resorbable antibiotics [3].

Leon Louis Seifert leonlouis.seifert@ukmuenster.de

¹ Medical Clinic B, Department of Gastroenterology, Hepatology, Endocrinology, Infectiology, University Hospital Muenster, 48149 Muenster, Germany

- ² Clinic for Radiology, University Hospital Muenster, 48149 Muenster, Germany
- ³ Department of Medicine II, Medical Center University of Freiburg, University of Freiburg, 79106 Freiburg, Germany
- ⁴ Department of Radiology, University Hospital LMU Munich, 81377 Munich, Germany
- ⁵ Medical Clinic I, Klinikum Der Barmherzigen Brüder Trier, 54292 Trier, Germany

As we already have discussed this topic we cannot exclude any overlap of those drugs with aspirin, but still the use of aspirin was independently associated with outcome. On the other hand, the use of non-selective beta blockers (NSBBs) is usually discontinued after successful TIPS implantation, and therefore a potential bias due to their use is unlikely.

A further criticism by Wang et al. is the use propensity score matching (PSM) resulting in a smaller sample size after matching associated with possible type I errors. Although we agree that this may occur, the reduction of sample size is a result of the application of robust matching criteria and an acceptable caliper width. The created cohort, matched using age, sex, MELD-score and platelet count to be able to compare patients with or without aspirin administration after TIPS, is well balanced and without significant differences in variables influencing prognosis in cirrhotic patients.

In the context of treatment safety it is imperative to keep in mind that the imbalance in hemostasis does not only put cirrhotic patients at risk concerning bleeding events but also thrombotic events [4]. In our opinion, there are no data supporting a clear contraindication for use of aspirin in cirrhotic patients. At our institutions, aspirin was only administered in patients with a platelet count > $50,000/\mu$ l.

Our data provide first data on a potentially beneficial effect of aspirin in cirrhotic patients receiving TIPS. Nonetheless it is important to underline that our data are insufficient to support a strong clinical recommendation but it encourages prospective studies.

Author contributions LLS, JT and HH conceptualized the study; LLS and JT wrote the manuscript; PS, DB, MW and HH critically reviewed the manuscript for important intellectual content. All authors approved the final version of the article, including the authorship.

Funding Open Access funding enabled and organized by Projekt DEAL.

Declarations

Conflict of interest JT, speaking and consulting fees: Gore, Bayer, Alexion, MSD, Gilead, Intercept, Norgine, Grifols, Versantis, and Martin Pharmaceutical. DB: Consultant: Bayer Healthcare, Boston Scientific, Shionogi. Lectures: Falk Foundation. All other authors declare no conflict of interest.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

1. Seifert LL, Schindler P, Sturm L, et al. Aspirin improves transplant-free survival after TIPS implantation in patients

with refractory ascites: a retrospective multicentre cohort study. Hepatol Int. 2022;16:658–668. https://doi.org/10.1007/s12072-022-10330-x

- Gu W, Hortlik H, Erasmus H-P, et al. Trends and the course of liver cirrhosis and its complications in Germany: Nationwide population-based study (2005 to 2018). Lancet Reg Heal Eur. 2022;12: 100240. https://doi.org/10.1016/j.lanepe.2021.100240
- de Franchis R, Bosch J, Garcia-Tsao G, et al. Baveno VII—Renewing consensus in portal hypertension. J Hepatol. 2022;76:959– 974. https://doi.org/10.1016/j.jhep.2021.12.022
- Chang WH, Mueller SH, Tan YY, et al. Antithrombotic therapy in patients with liver disease: population-based insights on variations in prescribing trends, adherence, persistence and impact on stroke and bleeding. Lancet Reg Heal Eur. 2021;10: 100222. https://doi. org/10.1016/j.lanepe.2021.100222

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.