



Portal vein thrombosis as a potential burden for liver transplant candidates in next future

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Comment on: Montenovo M, Rahnemai-Azar A, Reyes J, *et al.* Clinical Impact and Risk Factors of Portal Vein Thrombosis for Patients on Wait List for Liver Transplant. *Exp Clin Transplant* 2017. [Epub ahead of print].

Received: 12 January 2018; Accepted: 25 January 2018; Published: 28 March 2018.

doi: 10.21037/amj.2018.03.06

View this article at: <http://dx.doi.org/10.21037/amj.2018.03.06>

Liver transplantation (LT) is the most impressive and complicated surgical procedure. One of the big challenge for transplant surgeon is the presence of portal vein thrombosis (PVT). Since the first successful LT in patient with PVT in most of centers PVT was a contraindication to transplantation. The manuscript written from Montenovo and colleagues entitled: “*Clinical Impact and Risk Factors of Portal Vein Thrombosis for Patients on Wait List for Liver Transplant*” is a study analysis of a US national cohort of 134,109 adult patients listed for primary orthotopic liver transplant (OLT) between January 2002 and June 2014 (1). The first important result reported is the increasing rate of PVT at listing from 2% to 6%. No difference of LT rates for patients listed with or without PVT was observed. After multivariable logistic regression analyses, authors found that number of days on a wait list, age, prior abdominal surgery, hepatocellular carcinoma, ascites, history of variceal bleed, NASH, higher body mass index (BMI) at listing, and diabetes mellitus were all independent predictors of PVT development while on a wait list.

Degree and extent of PVT according to the Yerdel grade (2) were not analyzed in this study. This classification may change study conclusions. In previous studies, patients with grades I and II were described to have similar survival post LT of patient without PVT (3,4). The identification of risk factors for the development of PVT described in the study is an important way to identify a high-risk patient category. HCC is well known to be a risk for PVT, but in case of tumoral PVT a treatment with yttrium-90 radioembolization allows to obtain optimal survival after

LT (5-7). Nevertheless, NASH, increased BMI, and presence of diabetes mellitus were high independent risk factors for the development of PVT during the waiting list. This opens the actual discussion of the performance status LT candidates (7,8). Interventions to improve activity and ameliorate frailty in patients with NASH and increased BMI need to be proposed in order to decrease BMI patients. Furthermore, as authors underline in the discussion, NASH-related cirrhosis is growing as an important LT indication. Accordingly, the rate of PVT in LT candidates may increase too. Liver surgeons have to focus this potential risk in the future. At least, authors described the protective effect of TIPS on the development of PVT. I agree with authors and I'll add that TIPS does not increase the operative morbidity as described in previous study (9).

In summary, PVT rate in at listing and/or at the time of LT is growing. Some factors may increase the risk of PVT after listing and we have to develop optimal therapeutic and preventive strategies in order to avoid worth survival rates after transplantation.

Acknowledgements

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *AME Medical Journal*. The article did

not undergo external peer review.

Conflicts of Interest: The author has completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/amj.2018.03.06>). Dr. Levi Sandri serves as an unpaid editorial board member of *AME Medical Journal* from Aug 2017 to Aug 2019.

Ethical Statement: The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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doi: 10.21037/amj.2018.03.06

Cite this article as: Levi Sandri GB. Portal vein thrombosis as a potential burden for liver transplant candidates in next future. *AME Med J* 2018;3:47.