Letters to the Editor

Hospital Mortality and Current Trends in Liver Transplantation in Germany

A Systematic Analysis of Standardized Hospital Discharge Data, 2008–2017

by PD Dr. med. Sven H. Loosen, Prof. Dr. med. Hans H. Bock, Prof. Dr. rer. medic Martin Hellmich, Prof. Dr. Wolfram T. Kneefel, Prof. Dr. med. Christian Trautwein, Prof. Dr. med. Verena Keitel, Prof. Dr. med. Johannes G. Bode, Prof. Dr. med. Ulf P. Neumann, and Prof. Dr. Tom Luedde in issue 29–30/2021

Numbers Are Slightly Confusing

We congratulate the authors on their work, which is very important and valid in the current political situation (1). Analyses of billing data have shown a clear correlation between annual case numbers and hospital mortality for a multitude of entities (2–4). This has always been the case for the univariate analysis as well as the multivariate analysis, which is adjusted by patient data. The current article does, however, leave several questions unanswered:

- Is it possible in the multivariate analysis to clearly document the effect of the annual case numbers on hospital mortality? The authors’ chosen wording, “not independent of the patients’ age and disease etiology (OR: 0.863, 95% CI: 0.701–1.063, p = 0.166)” is somewhat confusing.
- The fatality rate in a “high volume” center is higher than in the “medium volume” center—does this reach statistical significance in the univariate and multivariate analyses?
- As the authors themselves reported and discussed, the fatality rate correlates primarily with the degree of liver disease, as reflected in the MELD [Model for End-stage Liver Disease] score. This elementary factor in particular was not included in the evaluable DRG data.
- Many studies have explained that it is not the occurrence of a complication that is the deciding quality parameter, but the possibility/option of treating such a complication (3).
- Medical monitoring of treatment quality is a crucial task. It is possible to carry this out by using billing data in the setting of multiple procedures—for example, oncological procedures—but this type of control does not seem entirely appropriate in the setting of liver transplantation. The low numbers of liver transplantations, the complex disease situation, which can be reflected only incompletely in the DRG system, and owing to the high ethical demands involved in a transplantation, individual control and, linked to this, approval/maintenance as a center for transplantations is preferable.

References


In Reply:

We thank our correspondents for their interest and the positive feedback on our study (1). DRG based hospital discharge data from the Federal Statistical Office constitute a valuable basis for the independent and objective analysis of hospital mortality in Germany. As we explained and extensively discussed in our article, multiple other factors are involved in hospital mortality, in addition to treatment quality. The wording we used for higher hospital mortality in centers with a lower transplantation volume (“low volume” center, <20 liver transplantations/year) reflects this appropriately, in our view. Statistically significant associations were reported accordingly.

In conclusion, we wish to note that—in addition to treatment quality—multiple parameters and influencing factors obviously affect hospital mortality after liver transplantation. We also agree with the comment that medical control of treatment quality is of crucial importance. These two issues are, however, relevant not only for liver transplantation but for all highly complex surgical and interventional procedures. In addition to the undoubtedly important individual quality controls of transplant centers, we are therefore of the
opinion that the overriding analysis of hospital mortality and the factors influencing it—in spite of the existing limitations, for example, the lacking option to carry out a MELD corrected mortality analysis in our data analysis—is a justifiable and necessary component of quality assurance in liver transplantation in Germany.

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References


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A 16-year History of Dyspnea

A 60-year-old female patient (BMI 21.6 kg/m²) had been very active in sports in her youth, being a long-distance runner up into her late twenties. She had a 16-year history of progressive dyspnea. Radiology revealed highly typical diffuse centrilobular cystic changes throughout the lung and suspected angiomyolipoma at the left renal pole. This confirmed, in line with the European Respiratory Society (2010) guideline, the very rare diagnosis of lymphangioleiomyomatosis, which affects almost exclusively women. Due to the rarity of the disorder, its diagnosis is often delayed. Vascular endothelial growth factor D (VEGF-D) can be elevated in lymphangioleiomyomatosis, as was the case here at 1.178 ng/mL (normal value <0.8). In terms of lung function, there was moderate obstruction with mild hyperinflation and severely decreased diffusion capacity. Blood gas analysis revealed mild hypoxemia. Exogenous estrogens could have a negative impact on pulmonary health and should be avoided. The patient is undergoing continued university hospital care and is receiving an mTOR inhibitor (sirolimus) to prevent further loss of lung function.

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