Reply to: "The Balance of Risk Score for Allocation in Liver Transplantation"

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The authors emphasize the relatively weak c-statistic of 0.7 for the BAR score targeting 3-month recipient survival. They speculate that the combination of only 6 variables results in moderate predictive accuracy for posttransplant survival. We would like to address these comments:

First, the limited accuracy of the BAR score of more than 18 is due to the low sensitivity despite an impressive specificity of 98%. Such high specific test is unlikely to give a false-positive result; in other words, any donor-recipient combination with a BAR score of more than 18 is exposed to a high likelihood for posttransplant mortality. On the contrary, the low sensitivity of BAR means that a negative result (BAR score ≤ 18) does not guarantee the absence of mortality. This drawback likewise relates to additional major confounders, such as the underlying disease, hepatitis C, or hepatocellular carcinoma.

Second, although the inclusion of more factors may intuitively seem advantageous, an appealing formula has not yet been identified. The inclusion of more variables, for example, with the SOFT model (18 factors included),3 failed to improve c-statistics. Rather, the SOFT model is regarded as disadvantageous because of more heterogeneity of variables and less practicability.4

Third, other prediction models, such as the D-MELD,5 or the donor risk index,6 showed even inferior c-statistics as compared with the BAR.1 Finally, additional graft risk factors, such as hepatic macrosteatosis of more than 30% or donor warm ischemia, may require a shift of the BAR score threshold from 18 to 9 to avoid wasteful transplantation.7

In summary, the BAR score is currently the most reliable and easiest applicable score to predict poor outcome after liver transplantation. Future analysis will show whether respecting BAR cutoffs can improve collective survival benefit.

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REFERENCES