failures because primary HB-vaccination failures occur in over 5% of adult vaccinees. Not only awareness that vaccine-induced immunity against HBV can wane over time, but also awareness of which factors are associated with waning immunity is important for preventing HBV infection in general and in the healthcare setting in particular.

References


Hein J. Boot
National Institute of Public Health and the Environment,
Centre for Infectious Disease Control,
3720 BA Bilthoven, The Netherlands
Tel.: +31 (0)30 2744596; fax: +31 (0)30 2744418.
E-mail address: Hein.Boot@rivm.nl

Towards a better liver allocation system

To the Editor:
We read with great interest the Twelfth Forum on Liver Transplantation published in Journal of Hepatology [1]. Although we agree that the MELD score is basically a “justice system” which allocates patients according to severity of liver disease however it is not necessarily the best system [2] and indeed some limitations of the MELD score were totally ignored in the forum mentioned above. For example, significant variations of the MELD score have been found using different laboratory methodologies for INR measurement [3], as well as creatinine (Cr) as we have published [4], and recently MELD-Na [5]. These variations, which may be cumulative when summed, lead to inequalities in prioritization of candidates, especially in those with the highest priority for LT (more jaundiced, greater renal dysfunction and lower serum sodium). A system of allocation that inherently does not have standardized measurements cannot reflect true justice for individuals on waiting lists – this needs to be addressed. Moreover, there is an issue of potential gender bias, highlighted by us [6] and reported by Moylan et al. [7]. In the UNOS database, women were more likely to die on the waiting list in the post-MELD era, compared to the pre-MELD era, although women were listed with lower median MELD scores, compared to men (14 vs. 15, p < 0.001). These findings are likely to be the result of not considering lower Cr in women for the same renal function (GFR), as in men [8], as we documented in our paper [6]. Interestingly, we found that correcting Cr by equalising the GFR between men and women resulted in an increase in MELD score by 2 or 3 points in 65% of female LT candidates [6]. Our findings with Cr are also pertinent to ethnicity differences. South Asian candidates have worse GFR for the same Cr values than Caucasians, and the opposite is true for black Africans, whether Americans or otherwise. A correction factor for gender and ethnicity could be introduced [6].

Regarding post-LT survival, it is true that the MELD score is a weak predictor of mortality after LT, so it cannot be used as a predictor. In order to assess likelihood of a good outcome, we have proposed a MELDD score – a second D for donor [2,8]. This would allow a utilitarian approach to allocation on top of the “solely justice approach” of MELD and would lead to a transplant benefit model for allocation. A recent evaluation of the European Liver Transplant Registry data [9], demonstrated that donor age, total ischaemic time, and other operative and recipient factors, not included in MELD, significantly and independently impacted on outcomes post-LT with very good
calibration for 3- and 12-month mortality [9]. In addition, Ioannou G [10] has shown that several donor and recipient characteristics are associated with post-LT mortality. Interestingly, in this study [10], gender and ethnicity in both donor and recipient were significant for predicting outcome after LT. We believe that disease-specific models (along with donor characteristics) need to be developed, since recurrence of primary liver disease affects long-term post-LT survival [8]. Thus, we agree with Schaubel et al. [1], who stated that a “transplant benefit” system is needed for allocation and prioritization of recipients, taking into account donor and/or operative factors and matching donor to recipient characteristics for optimal outcomes. “Matching” has been shown to have a great impact on survival benefit from LT [11]. It is encouraging that a “transplant survival benefit” allocation system is currently under consideration in the USA in order to maximize lifetime gained through LT [12].

References


Evangelos Cholongitas
Hepatobiliary Department, Royal Free Hospital, London, UK
Giacomo Germani
Department of Surgical and Gastroenterological Sciences, Gastroenterology, University of Padua, Padua, Italy
Emmanuel Tsochatzis
Hepatobiliary Department, Royal Free Hospital, London, UK
Andrew K. Burroughs
Department of Surgery, The Royal Free Sheila Sherlock Liver Centre, Royal Free Hospital, London, UK
Liver Transplantation and Hepatobiliary Medicine, Royal Free Hospital, Pond Street, Hampstead, London NW3 2QG, UK
Tel.: +44 20 74726229; fax: +44 20 74726226.
E-mail address: Andrew.Burroughs@royalfree.nhs.uk
doi:10.1016/j.jhep.2009.05.024