INVITED COMMENTARY

Liver "lobe neutrality" in the era of donor safety. Could "safe" be safer?

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Goja *et al.*, in their article [1] entitled "Right Lobe Donor Hepatectomy: Is it safe? A retrospective study," report their experience on 726 consecutive live liver donors performed over a period of 3 years (2011–2013) in Delhi (India). After comparing the morbidity and mortality rates of right versus left lobe donors, the Authors conclude that "with careful selection, meticulous surgery and good postoperative care in centers more experienced in RL LDLT, donor morbidity is similar with comparable one year recipient outcomes."

The Authors of one of the most active living donor liver transplant centers in the world should be congratulated for their impressive work and commended for reporting on their donor death (which we encourage to describe more in detail in a case report). Aside from providing convincing evidence that right living donor hepatectomy is safe in the hands of experienced surgeons, their data stimulate important considerations about donor safety.

The most important (and least surprising) finding in their study is that right lobe (RL) donation (while safe) is characterized by a much slower hepatic function recovery compared with left lobe (LL) donation. As shown in figure 1 of Goja *et al.* [1], patients undergoing right living donor hepatectomy had much higher levels of bilirubin, INR, and liver enzymes on postoperative day (POD) 1 and 3 before approaching normality by POD7. While slower hepatic function recovery has no effect in the overwhelming majority of cases, it may have catastrophic consequences in patients experiencing major unexpected intra- and postoperative complications (major intraoperative bleeding, pulmonary embolism, sepsis, major cardiac events, etc.). Fortunately, these events are rare, enough, however, to push many living donor transplant programs in the world to pursue more aggressively left lobe grafts [2–5]. A review of the literature by Roll and colleagues showed that the overall complication rate of RL donors is four- to 12-fold

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higher compared with LL donors [2]. Goja's report of similar right and left lobe donor complication rate may be biased by the relatively small number of LL donors performed (LL, 5%; RL, 88.3%) and the well-established correlation between case volumes and complication rate.

The second interesting (and most surprising) point is represented by the Authors' policy regarding graft selection. They state, in the supplemental material, that while a minimum GRWR of 0.8 is considered acceptable for a right lobe graft, a GRWR of 1 is necessary for a LL graft to be considered. This is counterintuitive, as many would argue that given the same parenchymal mass, LLs are much more likely to present with a favorable anatomy (single vascular inflow, optimized outflow, and single biliary drainage). More importantly, by assuming that LLs are inherently inferior to RLs, the Authors inevitably transfer risks from the recipient to the donors [2].

We were also surprised to notice that splenectomy is not part of the inflow modulation strategies of the Authors. Splenectomy has been shown by different groups to be very beneficial in modulating portal hyperperfusion, improve arterial graft perfusion, prevent SFSS, and allow successful transplants even with very small grafts [6,7].

In summary, we congratulate the Authors for their monumental work in the field of LDLT. We hope to see them joining soon the movement for "liver lobe neutrality" (or even better LL partiality) and report on their strategies to optimize outcomes of LL transplants. We believe that with increased experience in LL donation, they would demonstrate that safe (RL) can be safer (LL).

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Conflict of interest

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