

Liver transplantation from living donor as a sign of social intelligence

From a wide perspective, the general opinion held by the “international transplant community” is that living donor liver transplantation (LDLT) is justified since patients on liver transplantation (LT) waiting lists continue to die (1). Data from the Spanish Registry are telling on-list mortality has leveled out at 8% (it is up to 20% in some centers) whereas the odds of having a transplant (year 2008) never went beyond 50%.

LDLT—as well as split (2,3), non-heart-beating donation (4), marginal organs, or domino transplants—represents an option for increasing the donors pool. As our country is a world leader in cadaver donation rates, LDLT has been (and still is) reasonably questioned with arguments for (5) and against (6). This is a simple supply and demand issue that forces complex decisions regarding ethics, equity, and justice. The paper published here by the Murcia University team (Martínez-Alarcón et al.) helps elucidate this controversy (7).

Until January 2010, around 246 living-donor transplants had been performed in Spain (53% for adult recipients), with figures becoming more stable on a yearly basis, and representing 1-1.5% of the yearly total (8). When interannual percent growth rates for different organs were compared kidney transplants show a slight increase while the opposite is true for LDLT (9). The reported mortality of living liver donors is 0.15% (0.20% when causes potentially related to living donation are included) (6). To this day no donor deaths have occurred in Spain (5,6), and reoperation rates after donation are estimated around 10%. Survival rates for LDLT, according to data from the European Transplant Registry (10), are better for both patients (85% at 1 year and 76% at five years vs. 82 and 71%, respectively, for cadaver donation) and grafts (80% at 1 year and 70% at five years vs. 78 and 64%, respectively, for cadaver donation). The A2ALL study (11,12) described a higher incidence of grade-4 complications in living donor transplant recipients (16 vs. 9%); this percentage significantly decreases as team experience increases (> 20 transplants/year).

Surveys of living donors confirm that only 3.7% are pressured into donation; reasons for donation include saving the recipient's life for 60%, and personal satisfaction for 35% (13). Martínez-Alarcón et al. confirm that, should relatives be properly informed and hence considered living donation favorably, only 44% of recipients would rather stay indefinitely on their waiting list than choose a living donor transplant. Why then are we witnessing a sustained yearly decrease in absolute numbers?

Living donation is a singular, complex option to gain access to an organ for transplantation. Some factors condition living donation for the adult (organ scarcity, recipient benefits, donor risks, emotional stress, altruism, autonomy, MELD, etc.). Various (regional) lists exist, and wait times vary from one region to the next. As a consequence, on-list mortality and the odds for transplantation differ between

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Autonomous Communities. Hence transplant teams endorse different policies to increase their donors pool, conditioned by recipient age and the absolute magnitude of their own list. A lack of information in this respect may be transcendental and directly impact a living donor transplantation program's implementation.

In our view, and in agreement with the President of "*Sociedad Española de Trasplante Hepático*", Prof. M. de la Mata: *Criterios de distribución y asignación de órganos para trasplante y desigualdad de acceso en el territorio nacional. Aspectos éticos* (14), further efforts are needed to unify waiting list access and prioritization criteria for liver transplants (with either living or cadaveric donor) in the whole country (not only at a regional level. We need consensus, objective, crystal-clear criteria that guarantee "organ-recipient" assignment according to severity (using quantifiable markers), justice (or equity) and usefulness (or efficiency) principles. The MELD system, including donor-related factors, might well be a most useful tool. Obviously, distribution on severity grounds (MELD) leads to reduced promptness for living donation (15), especially regarding hepatocarcinomas, but also represents a useful instrument to screen which recipients would benefit most from a living donor. In fact, the living donor consensus document is committed to offer LDLT for patients with a minimum MELD of 12 or Child-Pugh of 8 points (16).

Therefore, adequate communication and awareness are crucial regarding current options to increase the donors pool, including liver split, asystolic donors, and domino transplants, among others. This endeavor to communicate and raise awareness should cover not only the civil society but also all health providers in order for them to become ultimately those who offer recipients the right option rather than avoid it.

We live in an intelligent society with a huge social capital and the ability to appropriately direct behavior by capturing, processing, and producing information (17). In this respect the words of Martínez Alarcón et al. (7) are telling: only 19% of recipients included between 2003 and 2005 were informed about this option, LDLT.

Initiatives such as that promoted by LDLT teams in Spain, *Jornadas Sobre Donación y Actividad en Trasplante de Donante Vivo* (Barcelona, November 2009), the Social Science section of Madrid's Athenaeum, *Trasplante de Órganos: Componente Científico. Componente Ético*, (Madrid, June 2010) (6), or *Organización Nacional de Trasplante* (18), *Estrategias de Mejora en la Donación de Órganos: la hoja de ruta*, (Madrid, March 2011), substantially contribute to the development of strategies for cadaveric/living donor and waiting list access management, that is, to intelligently solve the waiting list issue.

Thus, Martínez-Alarcón (7) provides valuable information on the perceived ultimate major actors recipients and potential living donors.

We must find a way to stimulate living donation. Indeed, the evaluation process itself results in the loss of many a donor (19), primarily because of inadequate volume-try (20) and ABO mismatch (21), and only 9-17% of candidates are eventually accepted (22,23). Hence, an attempt to minimize consequences (physical, psychological, financial) in transplant donors becomes essential. Scarring is a major drawback (24) that could be worked around by using laparoscopy. Another negative factor is sick leave costs (25). The solution to this problem possibly depends on the implementation of protection mechanisms similar to those for birth-giving women by offering security in the form of job preservation measures or facilitating access to healthcare insurance; donors, who no doubt provide society with something positive, currently receive nothing in return. A potential payment or compensation system for organ donors remains controversial, but it is the State itself that might play this role—as is the case in Iran to enhance living—donor renal transplantation (LDRT).

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Finally, in the context of an informed, aware society LDLT enhancement requires an appropriate identification of candidate patients, a reduction in morbidity and mortality, increased donor quality of life and lastly the implementation of novel options such as crossed donor programs or mismatched blood donor programs. Ours is the choice, and so is the commitment too.

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