

INVITED COMMENTARY

Overcoming roadblocks on the way to national self-sufficiency: exploring the deceased donor potential in India

Sayeed K. Malek, Naina Chipalkatti and Stefan G. Tullius

Division of Transplant Surgery and Transplant Surgery Research Laboratory, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA

Correspondence

Stefan G. Tullius, Division of Transplant Surgery and Transplant Surgery Research Laboratory, Brigham and Women's Hospital, Harvard Medical School, 75 Francis ST, Boston, MA 02115, USA.
Tel.: 001 617 732 6446;
fax: 001 617 582 6167;
e-mail: stullius@partners.org

Received: 10 June 2014

Accepted: 17 June 2014

Published online: 20 August 2014

doi:10.1111/tri.12386

Lack of organ supply remains the foremost problem in transplantation worldwide. A most sensitive topic, organ donation is highly influenced by cultural, religious, economic, administrative and political aspects.

In many countries, live kidney donors represent a significant, if not a majority of organ donors. While outcomes of live kidneys is in general superior to that of deceased donor kidneys, living donation will not be able to meet the demand for transplantation. Clearly, there is an overall agreement on the necessity of increasing deceased donor rates to meet the demand for transplantation worldwide.

While western countries have largely relied on exploring the utilization of marginal organs or those from donors who died after their heart stopped beating, emerging societies have primarily been challenged with the implementation of policies, regulations, and campaigns aiming to overcome cultural, economic, and religious roadblocks to donation.

Although solid policies and regulations exist in the United States, kidney transplant numbers have remained stagnant during the last decade and a decline has been observed during the last 3 years [1]. Despite broad activities, organ donation rates in the US have been lagging behind the rates achieved in some European countries. Although several

metrics have served to assess the status of deceased organ donation, including donation/conversion rates, organ yield, and rate of organs discarded in addition to careful deliberations and analysis, reasons for the observed decline in the US remain unclear.

The situation is even more critical in the developing world where donation rates for deceased donor kidneys have been abysmal mostly because of lack of public awareness, poor infrastructure, and social and cultural barriers.

In this issue of *Transplant International*, Kumar *et al.* have examined the potential for organ donation at a single public sector hospital in India. The transparency and critical analysis of their study needs to be commended. Moreover, their observations are timely as the Transplantation of Human Organs Act that governs organ transplantation in India since 20 years has just amended a mandatory report of brain-dead donors.

Prior to the implementation of this provision, the authors performed a prospective study looking at possible organ donors who met criteria for brain death. Categorizing patients as possible, potential, consented, and effective organ donors, they calculated donor numbers/per million population/year (a). In detail, the authors divided donors in each category/population based on the current regional

population census. Although, the conversion rate was poor, the authors were able to show high numbers of potential donors (115.7 donors/million population/a) highlighting the possibility for improvement.

The study is of interest, as it allows dissecting and thus potentially improving the low conversion rate in a stepwise approach.

More than 10% of identified donors expired prior to potential donation. At least in theory, some of those donors with confirmed brain death may have been saved if the process had advanced more rapidly.

Most importantly, in 80% of identified donors, organ donation was denied with the most common reasons being an insufficient comprehension of brain death or the fear of criticism by loved ones or societal pressure. Two approaches come to mind to overcome those issues: (i) whenever available, objective parameters of brain-dead diagnosis such as EEG or angiography may help families' understanding the irreversible status of this tragic medical situation, (ii) increasing public awareness in excess to activities mentioned by the authors through the involvement of highly recognized public figures may help in communicating the life-saving consequences of transplantation. Floats participating in the streets of the Carnival festivities in Brazil or soccer fans of premier league teams in the UK proclaiming the eternal life of their brain-dead buddies that have become organ donors may represent original ways of reaching a broad audience and improving the societal acceptance of organ donation.

While the incidence of End-stage-Renal-Disease (ESRD) in India is high, the majority of patients have only poor or no access to renal replacement therapy. Indeed, to learn that only a very small proportion of patients with ESRD remain on hemodialysis after 6 months is alarming.

Moreover, the worldwide shortage of deceased donors and the increased morbidity and mortality associated with long-term or no dialysis has led to the development of illegal and unregulated organ markets which exploit the poor and vulnerable sections of society.

The proclaimed national self-sufficiency by the Doha group will not only provide help for those in need in the

country but will also help to stop those engaging in transplant tourism to enter the country.

The study by Kumar *et al.* demonstrates that the crisis of deceased organ donors in emerging countries such as India is not a consequence of a shortage of suitable donors. Rather, an improvement of structures and perceptions may provide for a cohesive approach in identifying donors, obtaining consent and procuring organs. This requires the development of a national program with investments by all stake holders including the transplant community, government health officials, opinion leaders, potential transplant recipients, and the general public.

Strategies to increase deceased donation by developing a multi-faceted team approach targeting various areas of deficiency have been successful in the southern Indian state of Tamil Nadu which has an impressive deceased donation rate of 1.2/million population compared with 0.08/million population for the rest of the country [2]. This success was based on the involvement of all stakeholders, using dedicated transplant coordinators, educating, and engaging patients and the media. A similar approach that can be applied nationwide is required. Mandatory reporting of all potential brain-dead donors by the governing bodies, in addition to a careful analysis of national achievements and improvements as provided by Kumar *et al.* in this issue are important first steps.

As Kumar *et al.* have shown, the potential for organ donation exists in India, it needs to be tapped.

References

1. Matas AJ, Smith JM, Skeans MA, *et al.* Annual data report. *Am J Transplant* 2014; **14**(Suppl. 1): 11.
2. Abraham G, Reddy Y, *et al.* Evolution of deceased donor transplantation in India with decline of commercial transplantation: a lesson for developing counties. *Kidney Int Suppl* 2013; **3**: 190.
3. Kumar V, Ahlawat R, Gupta AK, *et al.* Potential of organ donation from deceased donors: study from a public sector hospital in India. *Transpl Int* 2014; **10**: 1007.