

Maximizing organ yield from deceased Lead donors

The number of patients imminently needing a transplant far outnumbers the available organs. India does not feature in the International Registry for deceased organ donation because of the lack of available data and paucity in the numbers of deceased donation. An important amendment to the Transplantation of Human Organ Act 1994 in 2011, permits an anesthetist or intensivist in the panel of defined doctors to certify brain stem death.^[1]

Globally, Spain heads the world in organ donation initiative with a donation of 35 per million population followed by the USA and the UK at 25 and 20 per million, respectively. In 2008, the government of Tamil Nadu paved the way for deceased donor organ donation with a state donation of 1.9 per million and the highest in the country. This model has been successfully adopted by other states such as Kerala, Karnataka, and Andhra Pradesh. The major impediments to organ donation in India are delay in identifying and confirming brain death, organ maintenance, and lack of public awareness.

Organ yield depends on donor age, anoxia as a cause of death, history of myocardial infarction, hypertension, diabetes, body mass index, blood groups B or AB, cocaine/cigarette use, and hepatitis infection. Hormone replacement therapy following brain death maximizes organ yield.^[2] Organ yield is assessed by organs recovered per donor and organ transplanted per donor.

A goal-directed management protocol led by the intensivists can improve the donor pool of transplantable organs. In the background of multiple organ retrieval, it is necessary to tailor the management suitably like restricting fluids for lung harvesting. The brain dead donor has a characteristic profile on the account of uncontrolled intracranial hypertension. Lytle *et al.* observed that sequential organ failure assessment scores do not change significantly in patients who develop brain stem death. This may have positive implications for the time available to optimize organ donors before organ retrieval.^[3] A retrospective analysis with historical controls has shown that

the number of organ donations increased after implementation of an intensivist supervised organ donation.^[4] This model could mitigate the organ shortage.

Published literature on solid organ transplantation recommends cost-effective treatment for end-stage organ failure, and transplant brings in changes in the quality of life. Each donor is a potential source of organs for seven patients on transplant waitlist. While managing donors, evidence-based care should be applied to allow donor stabilization, optimize organ donation, and fulfill the wishes of patient and family to donate. I conclude by sharing the sentiments put forth by the ANZIC "All intensive care staff should be alert to the possibilities of organ and tissue donation and be familiar with related legislation, the process of determination of brain death, and local procedures for tissue and organ donation."

Acknowledgment

I acknowledge the contributions from Saranya, Aneesh, Vinod, and Vishak in preparing this manuscript.

Noble Gracious

Department of Nephrology, Government Medical College, Trivandrum, Kerala, India

Address for correspondence: Dr. Noble Gracious, Department of Nephrology, Government Medical College, Trivandrum, Kerala, India. E-mail: noblegracious@gmail.com

References

1. Transplantation of Human Organ Act (Amendment); 2011. Available from: <https://www.india.gov.in/transplantation-human-organs-amendment-act-2011>. [Last accessed on 2016 Mar 24].
2. Selck FW, Deb P, Grossman EB. Deceased organ donor characteristics and clinical interventions associated with organ yield. *Am J Transplant* 2008;8:965-74.
3. Lytle FT, Afessa B, Keegan MT. Progression of organ failure in patients approaching brain stem death. *Am J Transplant* 2009;9:1446-50.
4. Singbartl K, Murugan R, Kaynar AM, Crippen DW, Tisherman SA, Shutterly K, *et al.* Intensivist-led management of brain-dead donors is associated with an increase in organ recovery for transplantation. *Am J Transplant* 2011;11:1517-21.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

How to cite this article: Gracious N. Maximizing organ yield from deceased Lead donors. *J Anaesthesiol Clin Pharmacol* 2016;32:143.

Access this article online	
Quick Response Code:	Website: www.joacp.org
	DOI: 10.4103/0970-9185.182083