



Deceased Donor Transplantation – An Indian Scenario

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ABSTRACT

Transplantation is the most effective form of replacement therapy, the donor being either live or deceased. Deceased donor transplantation can effectively abolish the organ trade and abolish the need – supply mismatch. Due to multiple factors, deceased donor transplantation has not gained much popularity both among doctors and public in India except a few southern states. The current scenario of deceased donor transplantation in India, barriers and the possible solutions are discussed here.

KEY WORDS : Deceased donor transplantation, Tamilnadu cadaver transplant programme

Introduction

Renal transplantation, by far is the most ideal modality of renal replacement therapy for most patients with End Stage Renal Disease. Renal Transplantation has better survival, quality of life and is cost effective compared to dialysis. Though many studies have conclusively shown that deceased donor transplantation is far better compared to dialysis, deceased donor transplantation predominantly takes

place only in few southern states of India [1]. The major barrier to renal transplantation in India is lack of financial support and availability of organs which has led to illegal trade of organs usually from the poor. The Tamilnadu cadaver transplant programme, a public – private partnership model has been successful in promoting legitimate deceased donor transplantation setting an example for rest of the country. Promoting deceased donor transplantation in India can decrease the mismatch between need and supply, and also can reduce commercial organ trade.

Magnitude of the problem:

The crude and age-adjusted incidence rates of end-stage renal disease are estimated to be 151 and 232 per million populations respectively, in India. In India less than 10% ever get access to renal replacement therapy like dialysis and

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transplantation, while less than 3% continue the therapy lifelong[1]. India with a population of 1.2 billion has a renal transplantation rate of 3.25 per million population[2]. Deceased donor organ transplantation (DDOT) accounts for <4% of renal transplants in India[3].

Lack of an appropriate organ donor is a frequent problem. Since 1994 when the Transplantation of Human Organs Act became law, fewer than 1000 deceased donor transplants have been done in India. The shortage of related donor kidneys, the lack of a deceased donor programme and large scale poverty has led to trafficking of organs.

In India 1,33,938 people died of road traffic accidents in 2010 and of that 70% were are brain dead[4]. If at least 20% of these brain dead patients had donated their organs, more than 40,000 renal transplantation could have been done in 2010.

Recent trends in cadaveric renal transplantation in India:

The national organ donation rate is 0.16 per million population with Tamilnadu leading the table with rate of 1.15 per million population[5]. Infact, Chennai city's donation rate is 14 per million population that is comparable to the organ donation rate in Netherlands, Poland, and Denmark. The Cadaver donors per million population per year in Spain, USA, Europe, South America and Asia are 32, 20.7, 15.9, 2.6, and 1.1 respectively[6].

Barriers to deceased donor transplantation in India:

Transplantation of Human Organ (THO) act passed in 1994 has accepted and clearly defined the criteria for brain death. This started a new era of cadaveric transplantation in India. Yet the deceased donor transplantation has not spread across the country [7]. Deceased donor transplantation is predominantly done in the

four states Tamil Nadu, Andhra Pradesh, Gujarat and Maharashtra.

The problem with the deceased organ donation programme in India involves multiple players including government, hospitals, medical practitioners and public. The issues include lack of government support, poor funding, hospitals not identifying and maintaining brain dead donors and lack of awareness of brain-death concept both among medical professionals and lay public [8]. Certain socio-cultural beliefs include concern about being cut up after death during and postmortem examination, fear of legal issues, the desire to be buried whole, a misapprehension about brain death, and the idea of donation being against religion [9].

Misconception about brain death:

Brain death equals death of the patient. This message should be spread across medical practitioners and lay public. It should be made mandatory for doctors or medical social workers to ask for organ donation in a brain-dead situation similar to "Required Request law" in United States [10]. In the state of Tamil Nadu, declaration of brain death has been made compulsory in the three main government hospitals in Chennai.

Role of transplant coordinator:

The transplant coordinator is central to success of the deceased donor programme. Counselling the families at a time of extreme grief should be humans and can only be done by a trained person [11,12]. The Transplantation of Human Organs (Amendment) Act 2011 makes the appointment of transplant coordinator mandatory for the hospitals which conduct deceased donor transplantation [13]. The deceased-donor family should be kept informed of the organ utilization procedure and assisted with all formalities including police liaison in the case of road traffic accidents and other medico-legal cases [14,15,16].

Governmental support:

An organ transplant programme needs determination on the part of all those involved in making such programme successful [17]. The responsibility rests on society, government as well as the medical fraternity [18]. Any program of this sort requires government support for financial support, to monitor, coordinate for its success [19]. In Tamilnadu and few other southern states of India, the government oversees and coordinates the transplant programme.

Role of Non-government organizations (NGO) & Media:

Non-government organizations (NGO) can create awareness about organ donation, train transplant coordinators, and also help the government in coordinating the programme [20,21]. The MOHAN (Multi Organ Harvesting Aid Network) in Chennai and Hyderabad, FORTE (Foundation for Organ Transplantation and Education) in Bangalore, Narmada Kidney Foundation, ZTCC (Zonal Transplant coordinating Committee) in Mumbai, (ORBO) Organ Retrieval Banking Organization in New Delhi, DONATE (Delhi Organ Procurement Network and Transplant Education) in Delhi are few examples. The media can effectively spread the message of organ donation to the masses [22].

The Tamil Nadu model:

A private-public partnership in Tamilnadu promoting deceased donor transplantation has effectively eliminated commercialization in transplantation in the state of Tamil Nadu with a population of 72 million which is a model for other regions of South Asia and developing countries. A central transplant coordinator appointed by the government oversees legitimate and transparent allocation of deceased organs both in the public and

private facilities as per the transplant waiting list. This model also takes care of the poor sections of society by conducting donation and transplantation through government-run public facilities free of cost. Each hospital maintains a waiting list of patients awaiting transplantation, that is frequently updated. The Tamil Nadu model involves allocation of one kidney, liver, and heart automatically to the hospital where the deceased donor organs are harvested. The second kidney, the liver, and the heart (if the hospital where harvesting has taken place only does renal transplantation) is allocated to patients in other hospitals by the convener.

Conclusion

It is necessary that deceased donation be governed by complete transparency to ensure that the sentiments of the donor's relatives are adequately respected and to gain confidence of the public. The key element for the success of the program is the need to educate our own medical fraternity and seek their cooperation. The cadaver organs should be regarded as national resource and should not be wasted.

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