Commentary

An Overview of Transplantation in Culturally Diverse Regions

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Abstract

Transplantation is one of the most progressive areas of medicine. Following its rapid development, organ transplantation has become part of the globalisation process, and is now available in all corners of the world in different social and cultural environments. Almost a decade into a new century, transplantation faces new challenges, with record numbers of patients on the waiting list, a scarcity of donor organs, inequity in access to transplantation, organ commercialisation, increasing living donation and the use of marginal donors. Probably more than in any other field of medicine, the cultural influences are very prominent in transplantation due to the complexity of the process and the ethical issues surrounding every step from donation, access to transplantation to outcome. These influences have led to different practical approaches around the world, which aim to be in agreement with the respective societal principles and moral values. Herein, we provide an overview of some of these challenges and their possible resolution in culturally diverse areas of the world.

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Introduction

Over the last 5 decades, organ transplantation has established itself as one of the most progressive areas of medicine. Technical advances together with immunological and pharmacological progress have led to a continuous improvement in outcome for all types of solid organ transplantation.

Following its rapid development, organ transplantation has become available in all corners of the world in different social and cultural environments. It is interesting to note that some of the most noteworthy recent advances have emerged from nations that have joined the transplant community in the latter years.

Almost a decade into a new century, transplantation faces new challenges. Record numbers of patients join the waiting lists worldwide and there is a scarcity of donor organs which cannot sustain an increased demand. The global search for "better and more" has created ethical debates surrounding organ allocation, access to transplantation, living donation, marginal donors, commercialisation and trafficking, which are constantly on the agenda of international transplant meetings.

These are only some of the issues of interest not only to the transplant community but to the public and mass media as well. Many of these challenges are closely related to cultural issues and have an even more important dimension in the multicultural society that we live in today. The entire society and human interactions are strongly influenced by cultural factors which include a person's racial identity, religious influences, family practices and a general overview of the world.[1] It is therefore not surprising that many aspects of transplantation such as donation, perception of suitability for the waiting list, the perceived benefit of transplantation and post-transplant compliance are strongly related to the cultural dimension of each individual group in society.

Probably more than in any other field of medicine, the cultural influences are very prominent in transplantation due to the complexity of the process and the ethical issues surrounding every step from donation to transplantation. These influences have led to different practical approaches

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around the world, which aim to be in agreement with the respective societal principles and moral values.

Organ Donation

There is no doubt that organ donation has stretched the ethical and legal boundaries of modern medical practice and has challenged traditional cultural beliefs upheld in many parts of the world.

Death had to be re-defined and in particular, the introduction of the concept of death by brainstem testing (BSD) was regarded with some mistrust in diverse areas of the world. Many of the initial public misgivings about BSD, cadaveric donation and subsequently living donation, have been set aside by the fact that no major religion around the world forbids donation or transplantation from living or deceased donors. Despite that, a multitude of other factors which play an important part in the cultural make-up, have contributed to the different ways in which organ donation developed in different regions across the globe.

After some considerable debate, the western world has widely accepted the definition of brain stem death and as a consequence, the deceased donation process has evolved steadily in most European countries and the US. However, regional variations and the particular low donation rates in certain areas in Europe (Fig. 1) such as Eastern Europe, Greece and parts of Italy highlighted the presence of strong cultural, traditional and religious beliefs that deter organ donation despite a favourable legal and religious framework.[2]

Such variations are even more noticeable within multicultural societies. In Canada, lower donation rates have been reported amongst immigrant ethnic minorities who tend to uphold their traditional spiritual and cultural beliefs and may be less knowledgeable about donation.[3,4] These differences are also visible in the multicultural environment of the UK and US societies, with lower donation rates among the native Asian, Black and Chinese minorities in the UK (Table 1) and African-American, American Indians, Hispanic and Asian groups in the US (Table 2).[5-7]

Table 1. Ethnicity of Heart-beating Kidney Donors and Recipients (1 April 2007 to 31 March 2008) and Transplant List Patients at 31 March in the UK

Ethnicity	Donors	Transplant recipients	Active transplant list patients
White	568 (95.6)	934 (83.5)	5298 (81.8)
Asian	10 (1.7)	100 (8.9)	998 (15.4)
Black	11 (1.9)	62 (5.5)	507 (7.8)
Chinese	1 (0.2)	10 (0.9)	74 (1.1)
Other	4 (0.7)	12 (1.1)	98 (1.5)

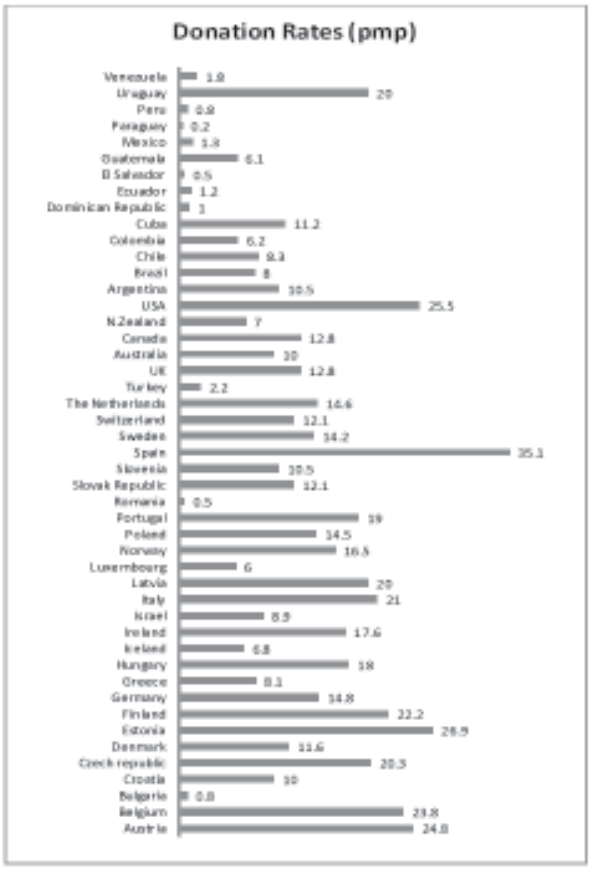

Fig. 1. Organ donation rates in 2005. Council of Europe. Newsletter Transplant Vol. 11 nr. 1, September 2006 (pmp: per million population)

Although this may be expected in a multicultural and multi-ethnic society, variations in donation rates were also noted even in the context of a strong national identity and relatively homogenous cultural background such as Switzerland. Here, population groups, based on their language (German, French, Italian) showed substantial differences with regard to the patterns of knowledge, concerns and motives underlying their willingness to donate.[8]

Non-heart beating donation, or donation after cardiac death (DCD) as it is known in some parts of the world, has added a new dimension to the cultural controversy surrounding the definition and acceptance of death and the use of organs for transplantation. Some western countries including the US, the UK and The Netherlands have championed this resource but, even in culturally similar societies, DCD has still to achieve its full potential, whilst in other countries it is yet to be accepted.

The Far Eastern countries have been slower to implement laws to support organ donation and recognising BSD. Deeply rooted in Confucian tradition, based on respect for the integrity of dead bodies, countries such as Japan, China

Table 2. Ethnicity of Heart-beating Donors in the US (UNOS data, October 2008)

	To Date	2008	2007	2006	2005
All Ethnicities	100.00%	100.00%	100.00%	100.00%	100.00%
White	74.00%	67.00%	67.10%	67.60%	68.20%
Black	12.40%	15.90%	15.50%	15.50%	15.00%
Hispanic	10.70%	14.00%	14.10%	13.70%	13.60%
Unknown	0.20%	0.00%	0.00%	0.00%	0.00%
Asian	1.80%	2.40%	2.20%	2.20%	2.00%
American Indian/ Alaska Native	0.30%	0.40%	0.50%	0.30%	0.50%
Pacific Islander	0.20%	0.20%	0.20%	0.20%	0.10%

and Korea have only recently acknowledged the concept of brain death.[9] Despite government legislative and advertising efforts, it remains difficult for the population to accept BSD as true death and therefore, these countries have a poor rate of deceased donor organs.[10] This has led to a completely different donation system compared to the western world, with an almost sole reliance on live donors. This situation created the ideal environment for significant technical developments in all areas of transplantation and in particular, liver transplantation with the use of various liver segments or the use of live donors.[11] Similar innovations took place in kidney transplantation with large scale kidney exchange programmes being set up well ahead of other countries.[12] As the use of cadaveric donors is culturally difficult to accept in the Far East, similarly, the use of multiple live donors and a quick work-up of family members in acute organ failure situations are not yet accepted in western society.

In Middle Eastern countries, living donor organ transplantation continues to be the primary form of transplantation despite an acceptance of cadaveric donation by the Muslim religion. However, due to the shortage of organs, some countries, such as Kuwait and Iran, have introduced the concept of "rewarded gifting" for the living donor and for the family of the deceased donor.[13] This process whereby there is a financial incentive to the donors, led to an increase in the cadaveric donation rate in Kuwait. An interesting application of this principle has been in place for some time in Iran. A tight state-controlled system has allowed a rewarded gifting process to develop and has apparently led to the elimination of the kidney waiting list.[14] Given the on-going debates on this issue in the western world, it is difficult to see how such a system could be implemented in a completely culturally different society.

There is no doubt that cultural factors play an important role, even in the most advanced societies. Recently, the UK has adopted a large-scale plan to increase organ donation, which includes a complete overhaul of the coordination infrastructure together with a media campaign and comprehensive public education to increase awareness. However, this process has specifically avoided discussion of the consent law (currently opt in). This issue has received wide media coverage and has sparked debates at every level, highlighting that even in a society which has been at the forefront of developments in transplantation, changes which tackle personal beliefs and moral values are difficult to implement and could in fact have a detrimental effect on the overall process of donation.

Promoting donation and organ transplantation in a multicultural environment represents one of the major challenges facing the transplant community. Different countries cannot tackle donor shortage in a standardised way, given the different attitudes and the cultural and moral concepts.[15] Whatever the approach, however, this should involve a team of healthcare workers who are sensitive to the values and the traditions of each individual group in addition to a coordinated effort to clear any misconceptions about organ donation, improve public education and awareness and promote communication.[16] Respect for cultural diversity and a better understanding of the cultural influences are means of building a stronger support for transplantation and ensuring the success of organ donation campaigns.

Access to Transplantation

Transplant waiting lists have increased exponentially over the last decades in all countries around the world. The criteria for listing have undergone numerous revisions to keep up with the changing moral, ethical and cultural values of each individual society. There is, however, irrefutable evidence that despite best efforts, there is persistent inequality in the access to the transplant waiting list in most transplant programmes.[17] Data from the UK demonstrated a reduced access to transplantation for patients from Asian and Black minorities.[18] Similar results have been noted amongst the African American, Hispanic, Asian and the Pacific Islanders communities in the US, among the Aboriginal people in Australia, the Asian and Eastern Asian communities in Canada, the non-Caucasian communities in New Zealand and the ethnic minorities in France or the patients living in the French overseas territories.[19-23] In fact, all multicultural societies are confronted with a similar dilemma: a higher need but a reduced access to transplantation amongst some of the ethnic groups. The vast majority of the reports on inequality of access to transplantation come from countries which rely mainly on cadaveric donation.

It has been argued that the lower rates of transplantation in the ethnic minorities are linked to under-representation

in the donor pool. Although this may hold true to some extent, evidence from the UK tends to suggest that adjustments to the allocation system can lead to an increase in the rate of transplantation in minorities groups.[16] In addition, efforts to encourage live donation can improve access to transplantation for these groups, but one has to overcome the cultural and personal beliefs that may hinder organ donation in these groups.

On a global scale, there is still an unacceptable low availability of transplantation. If one takes renal replacement therapy as an example, almost 80% of the world dialysis population is treated in Europe, North America and Japan, representing 12% of the world's population, whilst the remaining dialysis patients are treated in the developing world.[24] It can be argued that transplantation is economically more feasible and therefore it should be promoted as the treatment of choice in the developing world, where it is currently non-existent or is incipient and hence inaccessible to the wider population. Developing locally appropriate transplant programmes with technology transfer from developed countries, effective use of non-governmental sources of funding, use of generic drugs and public education programmes are some of the ways in which a wider accessibility to transplantation could be achieved.[25] Evidence from Brazil indicates that with strenuous efforts, this is possible at high standards.[26]

Results of Transplantation

Globally, there has been a constant improvement in the outcome of all types of transplant. This was due to advances in surgical technique, immunosuppression medication, postoperative care and the management of associated comorbid conditions.

Irrespective of the region of the world and its cultural background, transplantation has achieved excellent patient and graft survival with cadaveric donor organs and live donor organs alike. Any further improvements beyond current survival rates are likely to be minimal. Therefore the goal for the next foreseeable future will be to minimise the loss of grafts due to chronic graft dysfunction, medication-related comorbidity or pre-existent associated medical conditions. This will be even more challenging in some of the ethnic groups, in whom rejection rates are higher, the level of comorbidity is more severe and the likelihood of less optimal compliance is increased.[27]

Transplant Tourism

All these present day challenges have led to an increasing phenomenon of transplant tourism which has gone well beyond the occasional members of ethnic minorities returning to their countries of origin to undergo transplantation. Originally reported in India, Pakistan and the Philippines, the practice has become prevalent in many other countries on all continents and was estimated at around 5% of all recipients in 2005. [28] The extent of this phenomenon has prompted many countries in which the practice has been widely reported, to re-evaluate the legal framework governing transplantation.[28] As of May 2007, China and Pakistan have been taking steps to curb international organ trade, whilst the Philippine government is moving towards recognition of paid kidney donation with the hope of closing down the black market.[29-31] In a culturally and geo-politically different environment, such as Iran, the concept of paid donation has been publicly acknowledged and implemented but is strictly regulated, restricting the international organ trade.

Transplant tourism raises significant moral questions and emphasises the difficult relationship between medicine, religion, politics and ethics. One must be culturally sensitive in deliberating on the issue and its role in transplantation in certain parts of the world. The issue is far from being settled and in the meantime, patients on waiting lists exploit the cultural and economic differences between regions of the world to their own advantage.

Conclusion

Over the last decades, there has been tremendous progress in transplantation in the most diverse areas of the world. Organ transplantation has spread beyond cultural boundaries and is providing more and more patients with a new hope for life. With this development, new challenges have emerged and it is up to the transplant community and each individual society to address them in a sensitive manner, which would respect each nation's cultural, moral and ethical traditions.

Transparency, education and communication will bridge the gap between cultures and will ensure the continuous success of our endeavours but will require a global effort and cooperation which must stretch beyond geo-political, economical and cultural barriers.

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