

The Iranian transplant programme: comment from an Islamic perspective

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Introduction

There are 1.3 billion Muslims in the world. Islam is one of the fastest growing religions and now constitutes the second or third religion in the USA and many European countries. Islamic countries have differing economic status and per capita income and this has its impact on the renal replacement therapy provided (Table 1 [1]), as it is an expensive mode of treatment.

The success of transplantation activities in Islamic countries is only partly related to the economic situation. Other factors involved include (a) religious fatwas, (b) public outlooks and views, (c) the medical expertise and motivation available, and (d) the existing systems and laws.

Fatwas and their basis in Islamic religion

As mentioned in Ghods' paper in this issue, the religious scholars have passed a fatwa permitting transplantation. This has been the case in most Islamic countries. Indeed, a fatwa has been passed also equating brain death to cardiac death. A fatwa is a religious opinion about whether an action is halal (permissible), haram (prohibited), wajib (obligatory) or makrooh (disliked). A fatwa is based most and foremost on Quranic directives followed by the Prophet's tradition (Sunna) as well as the Prophets' companion's edicts and behaviour, more than by precedent. In the absence of any of those, certain basic principles can be utilized to reach a decision. The fatwa permitting transplantation was based, among other things, on the following principles: (i) interpretation of the Quranic verse 'And if anyone saved a life, it would be as if he saved the life of the whole people.' (Chapter V, Verse 35), (ii) 'Necessities allow prohibited matters.'

(iii) 'Injurious harm should be removed.' (iv) 'Need is considered the same as necessity.' and (v) 'Altruism and cooperation is paramount.'

Islam does not shun transplantation from living unrelated donors (LURD). It is considered an example of altruism. However, paid donation is not permissible. This is based on the fact that one's body does not belong to one's self (in order to sell) but to God. An important concept in Islam is that of kinship through shared breast milk. If a lady breastfeeds a child who is not hers, then he and his siblings are considered her sons and her offspring are his siblings.

Despite these positive fatwas, there is still a great deal of reluctance to consenting to cadaveric donation, as Ghods points out, because: (1) many are not aware of the fatwa, (2) tribal mentality still exists, (3) a veto system (of refusal) exists in the entire, extended family, i.e. all the family members have to give their consent, and (4) since there is no hierarchical religious system in Islam, a fatwa may be opposed by a local imam to whom the community goes for advice.

Laws of transplantation

In his paper, Ghods mentions that a transplantation law has been passed in Iran. Passing a positive fatwa on the permissibility of transplantation is an essential first step for the success of transplantation activity in an Islamic country. This, however, has to be implemented into a law by the legislative councils in those countries. In fact, there are some Islamic countries where a fatwa has been passed but no law has followed. Examples of such countries are Pakistan, Egypt, and Syria.

Public attitudes towards transplantation

It is interesting to consider public attitudes in some of these countries, although such studies are few. Ghods describes an apparent reluctance to accept living related donors (LRD). Surveys in a number of Muslim countries reveal positive responses, especially in willingness to donate to relatives.

The reluctance to donation stems from considerations similar to those reported from some countries, such as Japan, namely the fear of mutilating the body

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and of prematurely diagnosing brain death. In Islam, mutilation of the body is of great significance because it is, in fact, particularly abhorred. The other important consideration to be aware of is that Islam mandates quick burial of the dead. Hence it is crucial to hand over the body and to attend to any forensic aspects immediately after harvesting. Indeed, this is often a basic request from relatives donating their relation's organs.

Transplantation with living related donors

The vast majority of renal transplantations carried out in Islamic countries concerns LRD grafting, unlike that reported by Ghods. It is estimated to contribute to over 75% of all cases. This is facilitated not only by the lack of cadaveric kidneys in most Islamic countries, but also by the fact that most families have large numbers, not to mention the close ties among extended families. In many countries, including Saudi Arabia, the mean number of children per family is five. It is interesting to note that whereas in the West the majority of donation is parent to offspring, in the Islamic world, it is offspring to parent or sibling to sibling [2]. This probably is the result of the great emphasis Islam puts on the respect for and service to parents from their children. One, however, should not conclude that there is always a willing donor available in our societies, as mentioned by Ghods.

Models for transplantation in Islamic countries

Here I will describe briefly three models of approaching renal transplantation in three Islamic countries.

The Iranian model

Ghods describes the Iranian model, which remarkably abolished the transplant waiting list. This is a unique achievement and is based on the development of transplantation with LURDs. He indicates that this has not reduced LRD transplant activity, which remains at 2 to 3 per million population/year. However, I would question this since it stands to reason that most people faced with the choice between paying an affordable (according to Ghods) sum of money for somebody else's kidney or using one of their relatives' kidneys, would probably opt for the former. This suspicion is supported by the fact that the number of LRDs is really quite small compared to countries with similar culture and attitudes. This would indicate to me that the rate of LRD could be higher. Another concern, which is difficult to assess, is to what extent this approach has impaired the cadaveric transplant activity in Iran. Ghods states that the Dialysis and Transplant Patient Association (DATPA) committee, which is made up of patients, assesses the donor and the government gives him/her some form of financial support. This is followed by a payment from the recipient, which is 'limited to a range that the majority

of patients of a poor socio-economic class can afford'. How is this monitored? It is clear from the figures that the majority of donors (84%) were from the poor class. In an extensive review on LURD in Iran based on a survey of the donors [3], a rather grim picture of abuse emerges. In the paper it was stated that 51% of the donors expressed hate or anger towards their recipients and 65% stated that promises given by the recipients prior to surgery were not met. Actually, 83% were largely motivated by financial incentives and 76% of them feel that the practice should be banned. Nevertheless, I think this is a model very much worth studying, especially as more and more centres are doing or consider doing LURD transplantation. Many have introduced the use of committees to assess motives of the donors, as in the Munich protocol, and the idea of 'rewarded gifting' has been expounded by numerous colleagues [4]. Many 'respectable' centres undertake LURD transplantation and turn a blind eye to money being passed from recipient and donor. The worrying thing about doing this in some rich countries, as in the Gulf, is the possible pressure being put on workers such as family maids and drivers to donate to their employers.

The Saudi model

This has been described elsewhere [5]. It is principally based in the formation of a government sponsored central organization (the Saudi Center for Organ Transplantation (SCOT)) which organizes the whole of transplantation activities, including public and medical education, setting out rules, regulations, and control and monitoring systems. The Center divided the country into six sectors for the purpose of transplantation activities. The Saudi model has become a prototype for transplantation organizations. So far, the cadaveric organ transplantations carried out are: 1121 kidneys, 196 livers, 87 hearts, 220 heart valves, 367 corneas, 8 lungs and 4 pancreases [6]. This model represents a situation similar to what is being done in the West (UNOS, Euro Transplant, etc.), but with application more suited to an Islamic country. The cadaveric kidneys obtained are unfortunately not available in the numbers that we require. The major problems have to do with religious objections, despite the positive official fatwa, and a lack of well-trained coordinators, something that is being addressed. Nevertheless, SCOT is a good example to follow in other Islamic countries but the requirement for good governmental and financial support found in Saudi Arabia may be difficult to emulate in other countries.

The Pakistani model

This is an interesting model pioneered by Rizvi and colleagues at Sind Institute of Urology and Transplantation (SIUT). 'SIUT provides state-of-the-art services to all patients without any charges. It can do so because it has a motivated team, public and government support, absolute transparency in all its dealings and it offers the best possible patient care The

SIUT has made itself a role model of the whole country and works on the belief that we do not let anybody die even if he cannot afford to live' [7]. This model is inspirational because it has proven that high quality transplant service can be provided even in a poor country with the motivation of medical staff and charitable donations of the public.

Special pre- and post-transplant investigations and considerations

Ghods alluded briefly to the recipient work-up. This is similar to the one used universally. However, of particular relevance for Islamic countries is the high incidence of HCV in the dialysis population. Liver biopsies should be used much more frequently in the work-up of our patients. Another peculiar consideration is that the majority of our societies are under the age of 18 (>55%) and the need to exclude urinary abnormalities requires to perform MCU. This will also exclude schistosomiasis bladder pathology, although this disease *per se* does not seem to be activated by immunosuppression. Tuberculosis is epidemic in many Islamic countries and this should be looked for carefully. It is also 5 to 10 times more prevalent in our patients post-transplantation than reported in the West and therefore should be carefully checked in pyrexial patients. Although FSGS has been reported as being a common cause of GN in some Islamic countries, I am not aware of any report of increased incidence of recurrent GN compared to what has been reported internationally. We should be aware that—because of the consanguineous marriages among Muslims—there is an increased frequency of certain inherited renal diseases. This is particularly important when investigating relatives as potential donors. Familial Mediterranean fever (FMF) is quite common in countries such as Tunisia, Egypt, Jordan, Syria and Lebanon. Some reports suggest that the outcome of transplantation in patients with FMF tends to be good.

Following transplantation, special attention should be paid to the increased incidence of Kaposi's sarcoma. This has been reported for Saudi Arabia [8], Kuwait, Turkey and Iran.

Two other aspects of particular relevance to Muslim patients who received a transplant are worth mentioning. One is fasting during the month of Ramadan. Although this not mandatory for sick patients, we have found that this can be done safely after 6 months of transplantation [9] but that the transplanted kidney undergoes hypertrophy within 3 months after transplantation [10]. The other aspect is pregnancy. Unlike the experience in the West, 54% of transplanted women of reproductive age in our societies become pregnant as

a result of social pressure and feeling of 'worthiness'. It has been found that those with good renal function are able to do so safely [11] and that their children's kidneys are not adversely affected by exposure to cyclosporin *in utero* [12]. Finally, compliance remains a problem, as mentioned by Ghods.

History of transplantation

It is interesting to note that the history of the development of kidney transplantation in Iran, as described by Ghods, is similar in a number of ways to that of many other Islamic countries.

It usually started by referring patients abroad (usually to Europe or USA), thereafter many centres started training their own personnel, and began LRD transplantation within their own countries. This was followed in a number of countries by receiving donated cadaveric kidneys from abroad (usually Europe). In some countries, such as the Kingdom of Saudi Arabia, Kuwait and Turkey, the next step was to start cadaveric kidney transplantation from within the country and the final step in very few countries was to start multi-organ transplantation.

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Editor's note

Please see also Dialysis and Transplantation News by A. J. Ghods, pp. 222–228.