

Transplant Tourism and the Iranian Model of Renal Transplantation Program: Ethical Considerations

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Currently, the buying and selling of kidneys through "transplant tourism" is occurring at an increasing rate, both in developed and developing countries. Since 1988, Iran has adopted a compensated and regulated living-unrelated donor renal transplant program, and by providing financial incentives to volunteer living donors, has eliminated the renal transplant waiting list. In the Iranian model of renal transplantation program, regulations have been put in place to prevent transplant tourism. Foreigners are not allowed to undergo renal transplantation from Iranian living-unrelated donors. They also are not permitted to volunteer as kidney donors for Iranian patients. A study at the transplant unit of Hashemi Nejad Kidney Hospital in Tehran, Iran, showed that of 1881 renal transplant recipients, 19 (1%) were Afghani or Iraqi refugees, 11 (0.6%) were other foreign nationals, and 18 (0.9%) were Iranian immigrants. Renal transplantations seemed ethically acceptable to all refugees and foreign nationals. However, transplantation of Iranian immigrants who had been residing abroad for years constituted true transplant tourism.

Key words: *Kidney market, transplantation of refugees, transplantation of foreigners, transplantation ethics, donor compensation*

During the past several decades, advances in immunosuppressive therapy and organ transplant technology have improved patient and graft survival

rates in renal transplant recipients. As a result, the number of patients needing renal transplantation has steadily increased. Unfortunately, the supply of transplantable kidneys has been far from adequate and as a consequence, the number of patients on renal transplant waiting lists has continually increased. Each year, thousands of patients, even in developed countries, die waiting for renal transplants.

The situation is even more disappointing in some developing and low-income countries where, owing to very limited healthcare budgets, the expense of long-term dialysis is not covered by government funds. It is estimated that more than 500,000 new end-stage renal disease (ESRD) patients die each year in these countries because the patients cannot afford chronic dialysis therapy. The lives of many such patients could be saved by renal transplantation.

It has been shown that one's quality of life with a renal allograft is greatly improved over living with chronic dialysis, and renal transplantation from living-unrelated donors is superior to that of cadaveric transplants [1]. For these reasons, many ESRD patients want to be transplanted quickly from living donors, rather than wait for years to receive a cadaveric kidney. Many of these patients are from wealthy countries and they are tired of waiting, to travel to developing countries where they can buy kidneys from strangers [2]. This emerging problem, which is increasing worldwide, is called *transplant tourism*.

In this article, I will show first that unfortunately, the buying and selling of kidneys through transplant tourism is increasing, and that it is happening in both developed and developing countries. Second, I will briefly review the Iranian model of compensated and regulated living-unrelated donor renal transplant program and show how it has successfully eliminated renal transplant waiting lists and

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how its regulations have prevented transplant tourism in Iran. Finally, I will present a study showing the number of renal transplants that have been carried out on refugees, foreign nationals, and Iranian immigrants at our center and discuss the ethical issues and reasons for performing these transplants.

Transplant Tourism Around the World

During the past 3 decades, buying and selling kidneys have been reported from many countries. Some countries have become kidney markets where many people sell their kidneys owing to poverty. The shortage of transplantable kidneys around the world and the availability of these kidney markets have attracted many wealthy patients from other countries to travel to these markets to buy kidneys. The market that provides the transplant tourism is always changing. First it was India, then markets for transplant tourism developed in China, Iraq, Pakistan, the Philippines, South America, and Moldova. Transplant tourism is illegal in these countries, but the governments are either unaware, or they do not react strongly against selling kidneys to foreigners. In some cases, transplant documents are carefully prepared to show that the kidneys are altruistically given to family members; in other cases, it is more likely that appropriate people have been paid.

The kidney market for transplant tourism is so complex and well-organized that a single transaction often crosses 3 continents. According to a *New York Times Magazine* documentary report, a kidney broker from the United States matches an Italian client with kidney failure, to a seller in the Middle East, for surgery in Eastern Europe [3]. The article describes one patient who paid USD \$145,000 to a broker to buy a kidney, saying that the money he paid in advance covered hospital fees, a payment to the seller, accommodations for accompanying family members, and a chartered, round-trip flight to the country where the surgery would take place. The patient said that the destination was kept secret until it was time to leave. During the flight, he met other kidney patients from different countries, their traveling companions, the surgeon, nurses, and the broker. The plane landed in an airport where everything had been taken care of; there was no need to clear customs, and no one asked for passports. The patients were driven to a hospital, and their families were taken to a hotel. The taxis that transported the

patients had been prearranged. The cab driver had sold his kidney and had bought the cab with that money. The transplant surgeries were performed late at night, when the hospital had a smaller number of staff, and fewer people could question what was going on.

Most patients from the United States and Europe are reluctant to travel to kidney markets to receive renal transplants [3]. They prefer to undergo surgery in their own country. They pay donors to come to them. According to another report in the *New York Daily News*, "An international transplant Mafia based in the former Soviet Union is capitalizing on America's organ-shortage crises by smuggling live donors into the country and selling their kidneys. Illicit organ donors from Moldova, the poorest country in the former Soviet Union, enter the United States with false student or tourist visas. Then they are taken quickly to hospitals where their organs are removed and sold [4]." In the United States, there is no national transplant screening board; instead, every hospital has its own committee. Some facilities, especially those struggling financially, appear to use a sort of "don't ask, don't tell" policy when it comes to transplant surgeries with foreign donors. Brokers are familiar with these hospitals where buyers and sellers sign documents attesting that no money has changed hands [3].

One of the reasons that transplant tourism is steadily increasing is that the outcomes of such commercial transplants have remarkably improved. In the 1980s, commercial transplants were performed without attention to donors' and recipients' subsequent health, and the results were poor, with high mortality rates for the recipients [5]. Today, however, when these transplants are performed well, the results are as good as those at conventional transplant units [2, 6].

Iranian Model of Renal Transplantation

Until 1988, all renal transplants performed in Iran were from living-related donors, and the number of transplants performed was much lower than the national demand. At that time, there were many dialysis patients who needed renal transplants but had no living-related donor. The cadaveric organ transplantation program had yet to be established, and it did not seem as though it would effectively be started any time in the near future. The patients had created a long renal transplant waiting list at the Ministry of Health for travel abroad (using

government funds) to undergo transplantation. Transplantation of so many patients abroad was very expensive and understandably unaffordable for the government. Therefore, a government-funded, compensated, and regulated living-unrelated donor renal transplantation program was adopted in 1988. As a result, the number of renal transplant teams gradually increased from 2 to 25, and the number of renal transplants rapidly increased so that by 1999, the renal transplant waiting list had been eliminated. By the end of 2004, 17,718 renal transplants had been performed (3196 from living-related donors, 13,920 from living-unrelated donors, and 602 from deceased donors). Iran is now the only country in the world without a renal transplant waiting list, and more than 50% of the patients with ESRD in the country are living with functioning grafts. Renal transplant activity in Iran has reached 26 renal transplants per million per year. More than 78% of all renal transplants have been from living-unrelated donors. This program was eventually named the Iranian model of renal transplantation. The characteristics, results, and ethical issues of the Iranian model have been discussed and published previously [7-10]. In this model, many, but not all, of the ethical problems related to living-unrelated donor renal transplantations have been prevented, for example, poorer persons who, prior to the model, had been unable to afford transplantations can now afford transplantations [11].

In the Iranian model of renal transplantation program, the following 3 regulations were adopted to prevent transplant tourism in the country: first, foreigners are not allowed to undergo renal transplantation from Iranian living-unrelated donors; second, they also are not permitted to volunteer as kidney donors for Iranian patients, and third, foreigners may be transplanted from volunteer living-unrelated donors in Iran. Donors and recipients should be from the same nationality, and authorization of transplantation should be obtained from the ESRD office at the Ministry of Health.

Transplantation of Foreigners and Iranian Immigrants in the Iran Model

A study was carried out at the transplant unit of Hashemi Nejad Kidney Hospital in Tehran, Iran, one of the largest transplant units in the country, to investigate the number of transplantations performed on foreign nationals, refugees, and Iranian immigrants. The purpose of the study was to elucidate the

reasons for performing these transplants and discuss the ethical issues.

Between April 1986 and April 2005, 1881 renal transplants were performed at our center. Of these recipients, 19 (1%) were refugees, 11 (0.6%) were other foreign nationals, and 18 (0.9%) were Iranian immigrants who had been residing abroad for years. Of the 19 refugees, 12 were Afghani and 7 were Iraqi refugees. Of the 11 other foreign nationals, 7 were from Azerbaijan, 1 was from Turkey, 1 was from India, 1 was from Japan, and 1 was from Yemen. Kidney donors for the 12 Afghani refugees included 4 living-related donors, 1 spouse, and 7 Afghani living-unrelated donors. Of the 7 Iraqi refugees, 1 patient received a kidney from a living-related donor, and 6 received kidneys from Iraqi living-unrelated donors. Kidney donors for the 7 renal transplant recipients from Azerbaijan were living-related donors ($n = 2$) and Azari living-unrelated donors ($n = 5$). Both Turkish and Indian patients underwent spousal transplantation. One Japanese woman who had married an Iranian received a kidney from an Iranian living-unrelated donor. A Yemeni patient brought a living-unrelated donor from Yemen and was transplanted. This study showed that no foreigner or refugee had donated a kidney to an Iranian patient. Eighteen Iranian immigrants who had been residing abroad for several years returned to Iran for renal transplantation, received a kidney from an Iranian donor, and returned to their new country. Seven of these patients came from the United States, 3 from the United Kingdom, 3 from the United Arab Emirates, 2 from Germany, 1 from Italy, 1 from Sweden, and 1 from South Africa.

Nineteen refugees (12 Afghani and 7 Iraqi) were transplanted at our center. During the past 2 decades, due to 23 years of civil war in Afghanistan (1978-2001) and 8 years of the Iran-Iraq war (1980-1988), Iran has hosted about 500,000 Iraqi refugees in its western provinces and about 2.5 million Afghani refugees in its eastern provinces and major urban centers. Only a small proportion of these refugees have resided in camps. The majority have lived outside camps with opportunities to integrate locally with access to the Iranian labor market. As a result, they have had access to several government services on an equal basis with Iranian nationals, including dialysis and renal transplantation facilities. These services were nonexistent in Afghanistan. In June 2004, there still were about 1.6 million Afghani refugees in Iran (according to the United Nations

High Commissioner for Refugees statistics). Our study showed that of the 241 refugees with ESRD (prevalence = 150 pmp), 179 were on chronic dialysis, and 62 had had renal transplantations that were performed in Iran [12]. Nine refugees had received kidneys from living-related donors, 2 had received kidneys from spouses, 50 had received kidneys from Afghani living-unrelated donors, and 1 refugee had received a deceased donor kidney. No refugee had donated a kidney to Iranian patients.

All refugees have access to dialysis facilities in Iran, and they receive kidneys either from their related donors or from Afghani or Iraqi living-unrelated donors. Transplantation for all refugees in need, and an absence of using them as kidney donors for Iranian patients, provides strong evidence against commercialism and supports the belief that the Iranian model of transplantation is practiced with ethical standards.

Seven ESRD patients from Azerbaijan came to our center with their Azari kidney donors and were transplanted. Two of them received kidneys from living-related donors, and 5 received kidneys from Azari living-unrelated donors. Azerbaijan, a country to the north of Iran, has a population of 8.3 million. This country became an independent state after the breakup of the former Soviet Union. The health system of Azerbaijan is very inefficient. The dialysis facilities are limited and of inferior quality, and no renal transplantation program exists. Transplantation of these 7 Azari patients with the Iranian model is considered humanitarian assistance rather than transplant tourism.

Of the remaining 4 foreign nationals who had renal transplantations performed in Iran, 1 was from Turkey, and 1 was from India working in Iran; both underwent spousal transplants. One patient from Yemen brought a Yemeni donor and was transplanted. And a young woman from Japan who had married an Iranian and had been living in Iran received a kidney from Iranian living-unrelated donor.

True transplant tourism in the Iranian model is transplantation of 18 Iranian immigrants who had left

the country for years. The total number of Iranian emigrants is estimated to be around 2 million worldwide. These 18 patients had received information that as they have Iranian nationality, they were eligible for transplantation from an Iranian living-unrelated donor. So they came for a short visit, received a renal transplantation, and all 18 left the country. However, the number of transplants performed as transplant tourism by Iranian immigrants is very small (< 1% of all transplants), but it needs careful ethical evaluation. Should we add a regulation to the Iranian model that would close this door and eliminate this type of transplant tourism? Or should we continue to allow persons to use the Iranian model as a kidney market? Both of these questions remain under ethical consideration.

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