



Transplantation of Organs in Israel – Is Utilization of Organs Optimal?

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A significant gap between the supply and demand for organs for transplantation is the reality in every country in the world where organ transplants are performed. In Israel the gap is wider, and currently about 1,000 patients are waiting for transplants – 560 for a kidney and over 100 each for a heart and a liver [1]. The number of transplants performed annually in Israel equals, and in some years is even less than, the number of new patients added to the waiting lists, and it is estimated that 70–90 patients die each year while waiting for an organ. There is no shortage of resources for transplantation in Israel: there are enough transplant centers (some say too many), enough superb transplant surgeons and enough equipment. The problem is the lack of sufficient organs for transplantation. Organs are a scarce “commodity” everywhere. It is beyond the scope of this editorial to discuss why they are scarcer in Israel than anywhere else; but the question is asked if the utilization and allocation of available organs are optimal. Are we exhausting the potential for cadaveric organs and organs from live donors? Are we utilizing and allocating the organs in the best way?

There are ten steps on the path, that begins with the identification of a donor, to the successful long-term functioning of a transplanted organ in a satisfied recipient leading a normal or near normal life.

- Identifying every suspected case of brain death anywhere in the country
- Appointing a “Brain Death Committee” (as defined by the circular of the Director-General of the Ministry of Health) to verify or exclude brain death in every suspected case of brain death
- Obtaining prompt consent for an organ donation from every family of a deceased who was pronounced brain-dead
- Proper “maintenance” of every brain-dead cadaver until harvesting of organs
- Timely harvests of organs by an experienced team
- Prompt delivery of harvested organs to the transplantation center
- Proper selection of recipients
- Optimal surgical procedure
- Optimal postoperative care
- Proper anti-rejection treatment and long-term follow-up.

Implementation of these ten steps in an optimal manner will maximize efficiency of organ transplantation and will lead to the best possible utilization of available organs. This calls for a huge concerted effort by all members of the “transplant community” in the country: transplant coordinators, administrators and management of hospitals, intensive care personnel, transplant surgeons and their teams, specialists who follow the patients and monitor the anti-rejection treatment and, finally, the family physicians and the professionals responsible for psychosocial support of transplantees in the community.

In this issue of *IMAJ*, four groups of authors [2–5] discuss various aspects of organ donation and allocation in Israel. Finci et al. [2] from the Soroka Medical Center at Ben-Gurion University claim that one of the reasons for the shortage of organs for transplantation in Israel is the failure to identify all potential donors. By reviewing the medical records of all potential donors at Soroka during 2 years (October 1997 to September 1999), they concluded that around one-quarter of potential donors had not been designated as such by their medical team. Most patients who die in intensive care units from severe brain damage were designated as brain-dead by the medical team, while a large number of patients who died in the departments of Internal Medicine and Neurology were not identified. The authors believe that a comprehensive education program for medical and nursing staff may increase awareness for organ donation. We may assume that in hospitals that do not serve as tertiary care centers and regional trauma centers a higher percentage of brain-dead patients are not identified and the process of obtaining the consent of families for organ donations is not even begun. The limitation of this article is that it was a retrospective analysis, but its methodology enabled the authors to obtain what seems to be a reasonable reflection of “real life.” It should be noted, however, that the study was conducted during the initial period when professionally trained transplant coordinators began to function in every Israeli hospital (1998). Today, this functioning has been streamlined and experience has been accumulated, and we may be doing better in identifying and “maintaining” potential organ donors.

In another paper in this issue, Shabtai et al. [3] present a rather complicated computerized simulation model to examine the impact

of two opposing cadaver kidney allocation policies, based on either social or utilitarian approaches. The weight given to age and waiting time in the allocation formula represents the social approach to organ allocation, while the weight given to HLA compatibility and panel reactive antibodies (a yardstick used to measure the immunologic sensitization of the patient) reflects the utilitarian approach to the issue. The authors conclude that according to their proposed computerized simulation model, implementing the social policies yielded donor-recipient compatibility comparable to the utilitarian policies (19.4% for 0–1 mismatches vs. 28% for 0–1 mismatches respectively), while two-thirds of organs were allocated to long waiters (more than 48 months). The proposed model may serve as a valuable tool for decision-making in establishing or modifying organ allocation policies and sheds light on the relative weight that various components of the kidney allocation formula currently used in Israel have on the results of allocation. This model reflects the efforts of members of the transplant community in Israel to maximize fairness in the allocation of a very scarce commodity.

In the third paper on organ transplantation in this issue of *IMAJ*, Friedlaender [4] presents a protocol for paid kidney donations in Israel, which, according to the author, will obviate the need for patients to buy kidneys abroad, will give poorer patients an equal opportunity to receive unrelated living donor kidney transplants, and will increase the number of kidney donations in Israel. The protocol is based on a very vigilant medical and social assessment of the donor, obtaining donor consent very carefully, while being very clear about the possibility of allowing him or her to withdraw consent at any stage, choice of the recipient by the National Transplant Center according to the current allocation formula, and payments to the donor by the National Transplant Center with no donor-recipient contact. This paper deals with the very sensitive and controversial issue of commercialization of organ donation. Although this protocol resolves the ethical dilemmas concerning recipients, since the objective allocation formula used today by the Israel Transplant Center is to remain unchanged according to the proposed model, it does not solve the ethical dilemma concerning the donor, as paying for organs will affect the decision to donate only among the poor. It remains to be proven if such a model –

which until recently was severely condemned in most countries in the world but, because of the severe shortage of organs, is lately being reconsidered in both Europe and the United States – will actually increase the donor pool.

In a further attempt to increase the donor pool, Chkhtoua et al. [5], in a fourth paper in this issue of *IMAJ*, compare medium-term rejection rates between recipients of living related and living unrelated kidney donors using modern anti-rejection regimens. Their results indicate comparable success rates when differences in the characteristics of the studied groups are accounted for.

The extensive and intensive research on organ allocation and the suggestions for increasing the donor pool as discussed in this issue of *IMAJ* reflect the anxiety and stress of everyone involved in organ transplants, patients and caregivers alike, and as such should be commended. Increasing the awareness of the lay public to the importance of signing donor cards and the further education of medical teams on transplantation issues are probably the most effective ways to decrease the gap between the demand for and the supply of organs for transplantation.

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