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Ethical Aspects

One of the most exciting issues facing modern medicine is that of organ transplantation. Not a month goes by without news of some new development in this area. As an example of how far we have come, Dr. Sterzal - one of the leaders in the field - has enumerated a list of cases in which he has removed liver, spleen, pancreas, small intestine and part of the large intestine, and transplanted some of these organs in an impressive operation. And surprisingly enough, these patients managed to survive for a considerable period of time. We have reached a stage where the ability of surgeons and their assistants is quite impressive, and still progressing.

However, as is the case in many other disciplines, progress in the area of ethics has not kept up with that of science and medicine, and this discrepancy creates serious problems. I shall attempt to deal very briefly with some specific issues which will perhaps enable us to learn from past mistakes. Let us begin with an historical survey:

About 90 years ago Professor Karl transplanted a heart into a dog, thereby demonstrating the surgical techniques necessary to connect blood vessels. Over a period of several years other researchers attempted to transplant organs, but met with no long-term success - principally owing to immunology problems.

By the middle of this century several attempts to transplant kidneys had failed - even in cases involving close relatives. A breakthrough occurred during the 1950's when Professor Merrill overcame the immunology problem by transplanting the kidney of an identical twin. The success of this experiment earned him the Nobel Prize.

The kidney is an excellent organ to transplant for a number of reasons. Firstly, a person has two kidneys and the removal of one of them does not present a threat to the life of the donor. Secondly, the kidney is less "pampered" than other organs such as the liver and heart, and a kidney removed from a person already dead - even according to the conventional definition (i.e. the heart is no longer beating) - may still be used. Thus the complicated subject of defining brain-death is avoided.

Over the years, experimental transplant of other organs has increased. In 1967 there was a breakthrough with the transplant of a heart by Christian Barnard, which received much greater publicity than was warranted by its medical

significance. Connection of major blood vessels, such as the main arteries, is not an especially difficult task, as had already been demonstrated by Karl some 60 years earlier. But the idea that a heart could be removed from one person and transplanted into another created a worldwide stir. Every psychological reservation was shattered, and tens of doctors in various centers began transplanting hearts.

After the wave of enthusiasm of 1968-1969, during which hundreds of hearts were transplanted, most medical centers stopped heart transplants. During this period Rav Moshe Feinstein ז"ל defined these transplants as "double murder." At the time, he was exposed to heavy criticism: "How primitive! Here we are, progressing in great strides, and along comes this closed-minded individual who calls it 'double murder'!" But with hindsight it may justifiably be claimed that the first wave of heart transplants was a moral and medical disgrace. At the time there was still no consensus on clear procedures for definition of brain death, who was authorized to decide, and how the decision was to be made. Knowledge and infrastructure in immunology, infection and pathology were also undeveloped, and this was reflected in the results.

Out of 162 patients who underwent heart transplants between 1968-1970, 144 died within a few months. These results were the same for all the famous names in heart surgery. For example, out of 23 patients operated on by Dricoli, not a single one survived in the long-term. In addition, a number of moral atrocities occurred. The race to carry out heart transplants caught on throughout the world, with almost every country eager to participate in the quest for glory. In Brazil an illiterate Indian arrived at a large hospital suffering from cardiac arrest. He was admitted, and underwent a heart transplant - of which he was informed only after regaining consciousness, when he found himself face to face with TV cameras and journalists. The man died after three weeks.

The statistics in the U.S.A. for this period also show, for example, that most of the recipients were white, whereas most of the donors were colored. Then there was a widely publicized scandal involving the transplant of an artificial heart by Dr. Collie. Previous animal experiments had been few in number, and the sheep which survived longest following such an transplant lived for only 44 hours. Diviek also accused Collie of having transplanted a stolen device - he claimed that his technician, who renegaded over to Collie, had stolen it from him.

These are a few examples demonstrating what occurred during these years. Nowadays a few individual surgeons have saved the situation. Of particular note is Dr. Norman Shumway, who wasn't

especially honored in his day, but who invested much time and effort in animal experiments, working in close cooperation with immunologists, and slowly over the years made the heart transplant into an almost standard operation with impressive results. It is thanks to his selflessness, dedication and exacting research and practice that we have attained our present standards in heart transplants.

In summary we may say of this era in the history of organ transplants that owing to the exaggerated enthusiasm of the medical world, moral and medical rules were trampled underfoot. I was personally involved with a certain hospital in the United States which carried out heart transplants during these years, and I can testify to a host of moral problems which were left unsolved.

What then are the principal moral problems? Obviously, the first is the definition of brain death. Without getting directly involved in the standing debate between the halachic authorities on this subject, I would like to mention some important points which are generally accepted.

Firstly, the definition of the moment of death is not a medical one. The decision can be legal, halachic, moral or cultural; the role of the doctor being to supply the facts. But the decision as to when a person has died - only when all physical processes in the body have ceased (which can take a few days), or as soon as he has stopped breathing, or when his heart stops beating - is not a medical decision. For example, in Japanese culture brain-death is difficult to accept because in that society the heart is of central importance.

The second principle is that we don't kill one person in order to save another, or even several others. Otherwise each one of us would face mortal danger daily, because each of us possesses a number of healthy organs which could save a number of patients who are wasting away, waiting for transplants.

The third principle on which there is general agreement is that the decisions as to the definition of death and the method of treatment for the potential donor cannot be affected by the needs of the patient awaiting the transplant. There must be a complete separation between the respective medical teams. On this issue there is serious concern for the individual care of the patients, on both the moral and social level. For example, there is constant and growing pressure in the western world's medical circles to change the definition of death from cessation of all mental activity to cessation of activity in the upper centers alone, i.e. the cerebrum. There are many who claim that there is no need to wait for cessation of breathing before removing organs. The main problem concerns what is known as the persistent vegetative state, in which the patient is in a permanent coma but still breathes spontaneously, and may continue to live in this state for several

years. This situation poses an enormous emotional and financial problem. As an original solution to this problem one respected philosopher has suggested that we simply change the definition of death and define these people as dead, thus "solving" the problem.

A similar phenomenon has occurred with regard to anencephalic babies who die shortly after birth, often without the stage of brain-death. Thus it is difficult to use their organs for transplants. But there are some institutions in the world where their organs are already being used, before they reach the stage of brain-death.

Not long ago an article emerged from the University of Petersburg describing a method to increase the number of organs harvested after death; here I am referring to cessation of heartbeat. According to this method the doctors and family decide when and where the patient will die. The patients in question are critically and terminally ill, and the family and doctors decide that it is no longer worthwhile to prolong their lives. When they reach this decision they bring the patient into the operating theater, insert a syringe into the femoral artery, and - under supervision - decide when to disconnect the respirator, thus deciding the moment of death and facilitating the removal of the organs while they are still relatively fresh.

This idea is innovative in that it views the donor not as a patient but rather as a resource for transplantable organs - with fairly serious ramifications. All this goes on in a hospital where there is enormous financial pressure to increase the number of transplants.

There is also a host of problems surrounding the priority list for transplants. As of May 1993 there were 31,000 patients in the United States awaiting transplants of various organs. Approximately one third of the patients requiring a liver or heart will die waiting. In Israel the waiting list comprises a few of hundred patients. When the awaited organ arrives, the next problem is to whom it should be given. At first glance the answer seems simple: surely we give the organ to whomever needs it the most. But on second thoughts it turns out to be an exceedingly difficult decision.

How does one decide who needs the organ the most? Do we measure the seriousness of the illness? Should we perhaps consider the chances of the patient reaping some benefit from the transplant? Not everyone whose illness is the most serious, has the best chance of reaping the most benefit. Or should we award the organ to the patient who has waited the longest? Should we take into consideration the contribution of the candidate to society - a great Rabbi, an outstanding

scientist, someone with a wife and family? Do we grant an organ to someone who continues to smoke or to drink, behavior which is likely to harm the transplanted organ, or should this not matter? Should we consider the age of the candidate?

For example, there are significant differences between the policies of different countries in Europe for kidney transplants with regard to age. In Norway 46% of the recipients are over the age of 55, whereas in Italy the figure is only 6%. A variety of moral and halachic questions are involved, and anyone who has ever delved into this and tried to establish criteria has come up against difficult problems and has realized that the subject is not a simple one at all. Another subject which is receiving increasing attention is that of national priorities - whether transplants should be carried out at all, and how. The expenditure for health differs from country to country: in the United States today it is approximately $3,000 per person per year; in Israel it is less than $1000. There are countries in Asia where the average is less than $100 per person per year. Obviously most African countries cannot allow themselves the luxury of transplants simply for lack of funds. But even in wealthy countries the question remains as to whether money should be earmarked for transplants or made available for alternative aims. For example, during the period when Israel was approaching transplants with enthusiasm, a system of payments was instituted for inoculations, which resulted in a drop in the inoculation rate for children. Is it not perhaps more worthwhile to inoculate every citizen against Hepatitis B rather than investing in liver transplants? I do not pretend to suggest an answer, only to point out the range of problems which the subject entails.

Some years ago I was a member of the committee appointed by the Israeli government to decide which hospital in Israel would carry out liver transplants. I participated in nine meetings, and visited several hospitals. I learned an important lesson - that some important people are prepared to distort fact in order to earn admiration as a hospital which carries out transplants. We worked hard, and submitted our findings to the Minister of Health who accepted them with great understanding but went ahead and acted to the contrary.

There is another consideration with regard to the site for carrying out transplants. The number of heart or liver transplants in each medical center in Israel is quite low in comparison with European figures, although it is known that the chances for successful transplants improve as the medical center gathers more experience. I

believe that Israel should have chosen one medical center for each type of transplant, rather than sharing the "cake" between several hospitals.

In conclusion I would like to deal with another subject which also presents difficult moral choices. We are familiar with the great discrepancy that has arisen between the demand for transplants and the number of existing donors. Only a small percentage of potential donors actually donate organs.

Leaving aside for a moment the ultra-orthodox community and transplants of liver and heart which from their point of view are forbidden (since they do not accept the criterion of brain death), let us look at kidney transplants, or corneas, and the secular or national-religious communities (who accept the brain-death definition). Even within this community of potential donors only a small percentage of possible organs are transplanted. In my opinion this is a serious problem, both from a medical and moral point of view. In the secular press the orthodox establishment is often accused of holding up progress in transplants, but it turns out that this is not so. Not long ago an article appeared in which the founder of an organization which locates organs for transplanting was interviewed. He reported that religious people actually donate more organs than secular people do. The problem is not essentially religious.

I feel that many more organs could be made available in Israel if the subject was regarded by the State and society as a priority. There are legal and moral ways of increasing the percentage of patients who could receive transplants which are approved - and sometimes even mandatory - according to halachic authorities. I hope that we shall soon reach a stage where at least with regard to those transplants which are not halachically or ethically controversial, every possible organ will be used to save lives.

Finally, I hope that we shall merit the true transplant promised to us by the prophet Ezekiel: "And I shall give you a new heart, and a new spirit shall I put within you. And I shall remove the heart of stone from your flesh, and will give you a heart of flesh." If the Holy One, Blessed be He, carries out the transplants then I am sure that they will all be met with success.