

Review article

Ethics in Organ Transplantation

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SUMMARY

Organ transplantation is specific medical procedure which is used as a way of treatment. Transplantation is often the only way of curing a patient. Today, hundreds of people in the world live successfully with donor organs, and transplantations as medical interventions are performed routinely. In Europe, about 10,000 patients are saved annually by transplantation, but there are far larger numbers of those waiting for their so-called rescue organ.

In all countries, transplant medicine is regulated by special laws, regulations and conventions that provide medical, legal, and ethical regulations. Organ donation is an act of charity and giving, and not a contract on movement.

Righteousness and fairness are emphasized in transplantation medicine.

The question of organ transplanting affects the most intimate issues of human integrity, human dignity, health and illness. That is why certain instructions, rules of conduct and treatment are required from ethics. Today, in ethical dilemmas regarding organ transplantation, less emphasis is placed on imperative ethics, which emphasizes the idea of obligation, and more emphasis is placed on the so-called indicative ethics in which the idea of general accountability and solidarity is in the foreground. In cases of transplanting organs from a living patient, it is a doctor's duty to provide complete information to the donor and the recipient about the purpose and nature of the procedure itself, success probability, consequences, possible risks and noted adverse reactions. In cases of transplanting from a cadaver, the basic ethical question is defining brain death and respect for the deceased.

The main reason of a small number of donors is lack of information, fear of organ donating and ethical questions related to transplantation.

Key words: transplantation, ethics, donor, cadaver, brain death

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INTRODUCTION

Organ transplantation is a special and specific medical procedure that is used for the purpose of treatment. There are numerous definitions of transplantation, and according to the Law on Transplantation of the Republic of Serbia: "Transplantation is a medical procedure for taking organs, that is, cells and tissues from a living or a deceased person due to transplantation into the body of another person for treatment, including all procedures for preparation, processing, keeping, and monitoring serious adverse reactions as well as organ delivery" (1).

Transplantation over time

Attempts to transplant organs and tissues have deep roots, and looking through history, the first organ transplantation was performed by the Indian surgeon Sushruta in 600 B.C. It was an autologous transplantation of the face skin. An even older record of an organ transplant attempt is from 348 B.C. when Cosmas and Damian transplanted the leg from the deceased person to the person whose leg was amputated. Thus, the history of organ transplantation goes far into the past, although the so-called modern transplant medicine began to develop rapidly in the 1950s when the first successful kidney transplantation was performed between identical twins in Boston. Joseph Murray performed first successful human kidney transplant on identical twins (2).

For his contribution and development of the transplantation, J. Murray received the Nobel Prize in 1990. With the advancement of medicine, transplantation has also progressed as a medical branch, so in 1970 the first kidney transplant from the living donor was done in Ljubljana. In 1975, a kidney was transplanted from a living donor at the Clinical Center of Serbia, performed by an urologist, academician Savo Perović. In Niš, the first kidney transplant was performed in 1979 and in Novi Sad in 1984 (3).

The first heart transplantation was performed in Sremska Kamenica in 1989 at the Institute for Cardiovascular Diseases (4). The liver was transplanted successfully at the same institute in 1995 (5).

Types of transplantation and their importance

There are several types of transplantations according to the genetic relationship of the donor-recipient, then according to the transplantation location, to the

transplant function, and according to the immune competence of the transplant and the type of donor.

Concerning transplantation in relation to the recipient-donor, we distinguish autologous transplantation, synergistic, allogenic and xenogeneic transplantation. The most common type of transplantation is allogenic, from one donor to another recipient, while xenogeneic transplantation is most often performed in laboratory animal studies when organ transplants of one species are transplanted to another species.

According to organ donations, transplantations from the living related and/or unrelated donors and so-called cadaveric transplants, from dead donors or cadaver, are distinguished. In addition to therapeutic transplantation, there are aesthetic transplantations and scientific transplantations.

Transplantation is often the only way to cure a person. Today, hundreds of people are successfully living in the world with donor organs, and transplantations as medical interventions are performed routinely. In Europe, about 10,000 patients are saved annually by transplantation, but there are far larger numbers of those waiting for their so-called rescue organ.

Serbia is the country with the lowest number of registered donors, less than two per million inhabitants; therefore, it is also on the lowest scale in the number of transplanted organs. In 2016, six families granted the permission for transplantation, and eleven kidney, two liver and one heart transplantations were performed, which is extremely low.

Legislation on organ donation

In all countries, transplantation medicine is regulated by special laws, and the European Convention on Human Rights and Biomedicine, as well as an additional protocol on the transplantation of organs and tissues of human origin, have enormous significance in transplantation medicine (6).

In 1968, Eurotransplant System, a foundation that directs the distribution of organs and tissues within eight European countries, was established in the Netherlands, with the aim of exchanging information on the offer of transplant organs and the distribution of cadaveric transplants (7). In January this year, Serbia became an associate member of Eurotransplant when the board of this foundation decided to establish a close cooperation with the goal of improving organ procurement and transplant treatment.

The Republic of Serbia Transplantation Law allows the donation of organs from the deceased pati-

ents only after the confirmation of cerebral death, which is performed by a unanimous decision of the medical council, in accordance with medical and legal assumptions. The donation of the organ is done only in case when the deceased person, during their life, expressed a wish to be a donor by signing the donor card, or when the family member of the deceased signs donation consent. The families of the deceased are facilitated in decision-making about donation of organs if they are aware of the positive attitude of the deceased, who has expressed their attitude about the donation while they were alive, so every family should discuss this topic. Any of us may need a transplant, and the probability of being in need of transplantation is more than the probability of being organ donors. Japan prohibited the organ transplant from a deceased person until the adoption of the law in 1997, but nevertheless the rate of cadaveric transplants is low due to cultural reasons and mistrust in Western medicine (8).

In Israel, the rate of organ bequeathing has increased since 2008 following the adoption of the law, and the reason for this is that if there are two candidates for the same organ; one that has a signed donor card has the advantage (9).

The leading country in the number of transplanted organs is Spain precisely because of the number of donors and the model that regulated donations. The success factors of the Spanish model are: legal approach, comprehensive education program, public relations, adequate medical resources, adequate number of trained health workers, solidarity and trust of citizens in the health system, extended criteria for accepting organs, such as persons over 65 of age that can be donors (10).

Croatia is also the leading country in Europe according to the number of the registered donors, right after Spain, owing to the legal regulations, and above all, to the so-called system of presumed approval or opt-out system. This model of permissible organ taking means it is permitted to take organs from the deceased if he or she had not refused consent to donate during their lifetime. Omitting to refuse consent to donate is considered as the consent, i.e. the consent is presumed. In this way, one becomes the donor at birth, unless the citizen, during his or her lifetime, has declared in writing that the organs cannot be taken after their death. This system is applied in France, Spain, Croatia, Italy, Belgium, Poland, Austria, Sweden and Norway.

Another model for the permissible taking of organs from a deceased person is the so-called system of explicit consent or opt-in system when the parts of a de-

ceased person's body cannot be taken if he or she has not given explicit consent in the manner prescribed by law. Denmark, Germany, the Netherlands, Switzerland, Australia and the United States use this system. In Serbia, a mixed system is currently adopted, but the opt-in system prevails (a positive statement i.e. a donor card or a negative statement, i.e. a registry). In order for Serbia to proceed with bigger steps forward, the significance of the bequeathing and donation of the organ must be equally discussed in the political, health and every segment of society. This year, we have the least progress, and about 1,000 people, whose lives are hanging by a thread, are waiting for new organs. Numerous surveys conducted in our country show that citizens of Serbia consider organ bequeathing as a human gesture, but sadly the reality denies them. So far, only 130,000 donor cards have been signed. The most common reasons for not donating organs are distrust in the doctors and the health system, the fear of organ manipulation, i.e. lack of trust that the organs would end up with the people they really need them and the belief that the rich are at the top of the waiting list. The fear of potential illegal sales of organs on the black market is frequently mentioned. Experts in Serbia hope that the new Law on Transplantation will improve the situation in this area and that things will start to change for the better.

Transplantation medicine principles

The principles on which transplantation is based are confirmed through legal regulations and solutions, and the basic principles emphasize: the principle of solidarity based on voluntary, unpaid donation, anonymity of the donor and recipient of the organ and on the altruism of the donor, then the principle of medical justification, the principle of protection of interests and the dignity of the donor and the recipient, the principle of accessibility and prohibition of discrimination and the principle of security (11).

Donation is an act of charity and giving, and not a movement contract.

It should be emphasized that transplantation is the only area of medicine where active participation of all citizens is of crucial importance. Comprehensive actions, engaging health workers, governmental and non-governmental institutions, celebrities and the widest population can contribute to an increase in the number of transplantations, which will result in patients waiting for a new organ receiving the one as soon as possible in order to pursue a better quality life.

Ethical and religious aspects of organ transplantation

The word ethics comes from the Greek word *etxos* which means the custom and/or the word *etikos* which means moral. Ethics is a science on morality, which is important in all aspects of life. A moral phenomenon is a complex of norms, customs, habits, and rules of conduct that lead humanity in the management of their actions and behaviors (12).

In ethics, medicine aims to develop positive moral traits of health workers such as: respecting the needs of others, tolerance, fairness, humanity, honesty, altruism, solidarity, consistency, and accountability. In transplantation medicine, righteousness and fairness are emphasized. Righteousness is the most important moral principle that represents a strict boundary between emotions that can influence the formation of attitudes in making a rational and professional decision (13).

The principle of righteousness is important because it protects the autonomy of the individual's decision. The principle of righteousness is reflected in the commitment to moral, social and economic equality. The principle of fairness and righteousness is in direct relation between donors, recipients and doctors.

Bioethics is a branch of ethics that can be defined as a set of norms and rules of human behavior in relation to everything that surrounds them (people, animals, and plants).

Bioethics refers to all spheres of human action; it refers to the questions of life and death, of health and disease, and the attitudes of people towards these issues (14).

The question of organ transplanting affects the most intimate issues of human integrity, human dignity, health and illness. That is why certain instructions, rules of conduct and treatment are required from the ethics. Today, in ethical dilemmas regarding organ transplantation, less emphasis is placed on imperative ethics, which emphasizes the idea of obligation, and more emphasis is placed on the so-called indicative ethics in which the idea of general accountability and solidarity is in the foreground. Solidarity in transplantation meditation is ethically viewed as a type of moral action, that is, it permeates the core of morality, because taking care of oneself or others is the taking care of life in general. We are morally developed only if we are able to show solidarity.

When we talk about ethical attitudes about transplantation, religious attitudes on organ donation cannot be avoided. Different cultures and religions have dif-

ferent understanding regarding transplantation medicine. The influence of religion on society is of great importance, because apart from the faith being the characteristic of one nation, it propagates certain principles and life norms. The Catholic faith supports organ transplantation, but emphasizes that the transplantation of the sex glands or brain should not be done (15).

The Roma people do not accept the donation of organs because they feel that their body continues to live even after death. Jehovah's Witnesses believe that organ donation is a matter of good will, but when giving and receiving organs, all organs must be completely washed away from the blood. Buddhism does not declare decisively about donation, but it does not accept the concept of brain death, although they give an option to their members that this is a matter of personal choice. In Islamic religion, it is not allowed to donate or receive organs from people of other religions, or non-Muslims. In this religion, a cousin or neighbor in relation to other persons of the Muslim religion has the priority of receiving organ (16).

Orthodox faith as well as other Christian religions supports the donation of organs other than the brain and the sex glands.

When it comes to the ethical principles of organ transplantation, one of the most important postulates is the so-called informed consent, in case when both the donor and the recipient of the organ must be fully informed in order to obtain complete, professional-medical information about the transplantation process. Having in mind that every person is entitled to make his/her own decisions about themselves and their bodies, the attitudes of experts, we consider that doctors bear the greatest responsibility for the decisions regarding our health. In each healthcare institution that performs transplantations, the ethical committees are formed in accordance with the law and they give consent to the taking of organs from a living donor, give opinions on ethical and other issues in the transplantation process, perform other tasks upon the proposal of the transplant team coordinator, give consent after inspecting medical records, by all the members of the ethical committee put their signatures under the signature of the donor on the statement of the living donor's consent (17).

In 2005, Serbia became a member of the National Committees of the Council of Europe, which abide by the Convention on the Protection of Human Rights and Biomedicine. The Biomedicine Convention clearly points to ethical rules on transplantation from a living donor. Transplantation is approved exclusively for therapeutic purposes in favor of the recipient, when there is no

possibility of transplantation from the cadaveric donor, but it is not approved to be done from the persons that cannot give conscientious consent, unless the recipient is the first, living relative or brother or sister of the donor, and if, in that case, his/her life is saved, and there are not any other donors. Any gain from organ transplantation from the donor to the recipient is forbidden (18).

When transplanting organs taken from the living donors, the doctor is obliged to provide complete information to the donor and to the recipient about the purpose and nature of the procedure itself, probability of success, consequences, possible risks and recorded adverse reactions. In the case of transplantation from a living donor, ethical and legal issues that arise are: the donor's consent, which must not be extorted, but voluntary, and that this is a person of mature psychological reasoning. Voluntary organ donation can be expressed only by persons who are not in captivity or who are not serving prison sentences. There are several examples of transplantations that were carried out without ethical standards in 1920s in Serbia. One example is when a Russian emigrant, Pyotr Vasilyevich Kolesnikov, in Zaječar, transplanted a testicle taken from a prisoner who agreed to donate a testicle for pardoning and avoiding a 20-year prison sentence (19). This can be considered as an extorted consent with gained profit. The question of free will is often problematic, because if it is about relatives, parents, and siblings, consent can be extorted by various pressures or complaints. And, if it is not about the donor who is a relative, the issue of giving organs can also take on the character of the trade. In India, this is a very common problem, and there was a big affair in France in 1995 when a television show was broadcasted about the transplantation of a cornea taken from a live Colombian child. Organ trafficking is still common in poor countries when the possibility of exploiting the poor by the rich opens up and turns the human body, i.e., human organs into commercial goods.

The question arises as to whether the heart transplant for the seventh time performed on multimillionaire Rockefeller is really medically justified intervention or a whim of a rich man with no ethical standards.

The medical team that works on transplantation is responsible for respecting complete diagnostic procedures in terms of indications of the request on the recipient. These norms are regulated by the Helsinki Declaration, as well as the International Code of Ethics for Health

Workers with International Human Rights Biomedical Research, adopted in Geneva in 1982 (20).

When we talk about cadaveric transplantation, the taking of organs and tissues has a greater significance in ethics, since the moment of the death of the donor must be determined. After determining the brain death of a potential donor, in accordance with medical doctrines, the doctor must talk to the family because an organ can be taken from the potential donor only after obtaining the family's consent, i.e., the transplantation procedure can begin. There is also a time limit here, given that there is an exact time for the transfer of organs to the body of the recipient. A doctor or a medical team that determines brain death must not be in a team that performs organ transplantations. This is also ethical and legally justified.

A particularly ethical issue in cadaveric transplantation is the respect for the deceased person, which refers to respect for the deceased or for the inviolability of his/her body.

When it comes to transplantation from a dead person, questions are raised: the right that relatives have; definition of the moment of death, medical-doctrinal standards and procedures, philosophical and theological aspects; ethical evaluation of risks and other possible consequences with the recipient.

CONCLUSION

Twenty-first century is the century of transplantation which, owing to the advancement of medicine and other sciences, has become a routine matter. However, unfortunately, the number of recipients is much higher than the number of organ donors, and the need for organs is increasing. The biggest reason for a small number of donors lies in the lack of awareness, fear of donating organs, and ethical issues related to transplantation. An increase in the number of donors is a significant issue of ethics and bioethics in the moral, psychological, sociological and religious sense. In the process of organ bequeathing, prejudice plays an important role, and the emphasis of ethics and biology must be to break down these prejudices with potential donors and all medical workers who are involved in the transplantation process.

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Etika u transplantaciji organa

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SAŽETAK

Transplantacija organa predstavlja poseban i specifičan medicinski postupak koji se primenjuje u svrhe lečenja. Transplantacija je često jedini način izlečenja neke osobe. Danas u svetu sa tuđim organima uspešno živi više stotina ljudi, a transplantacija kao medicinski zahvat obavlja se rutinski. U Evropi se godišnje transplantacijom spasi oko 10 000 pacijenata, ali je daleko veći broj onih pacijenata koji čekaju svoj takozvani "organ spasa".

U svim državama transplantaciona medicina uređena je posebnim zakonima, propisima i konvencijama koje daju medicinsku, pravnu i etičku regulativu. Donorstvo predstavlja akt milosrđa i davanja, a ne ugovor o prometu. U transplantacionoj medicini apostrofira se pravednost i pravičnost.

Pitanje presađivanja organa zadire u najintimnija pitanja čovekovog integriteta, ljudskog dostojanstva, zdravlja i bolesti. Iz tog razloga od etike se traže određena uputstva, pravila ponašanja i postupanja. Danas se u etičkim dilemama u vezi sa transplantacijom organa manje gleda na imperativnu etiku, u kojoj se naglašava dužnost, već se naglasak stavlja na tzv. indikativnu etiku u kojoj ideja o opštoj odgovornosti i solidarnosti dolazi u prvi plan. Kod transplantacije organa uzetih sa živih donora lekar je dužan da pruži potpune informacije davaocu i primaocu o svrsi i prirodi samog postupka, verovatnoći uspeha, posledicama, mogućim rizicima i zabeleženim neželjenim reakcijama. Kada se radi o presađivanju sa kadavera osnovno etičko pitanje je definicija moždane smrti i pijetet prema umrlom.

Najveći razlog malog broja donora leži u neobaveštenosti, strahu od doniranja organa i etičkim pitanjima vezanih za transplantaciju.

Ključne reči: transplantacija, etika, donor, kadaver, moždana smrt