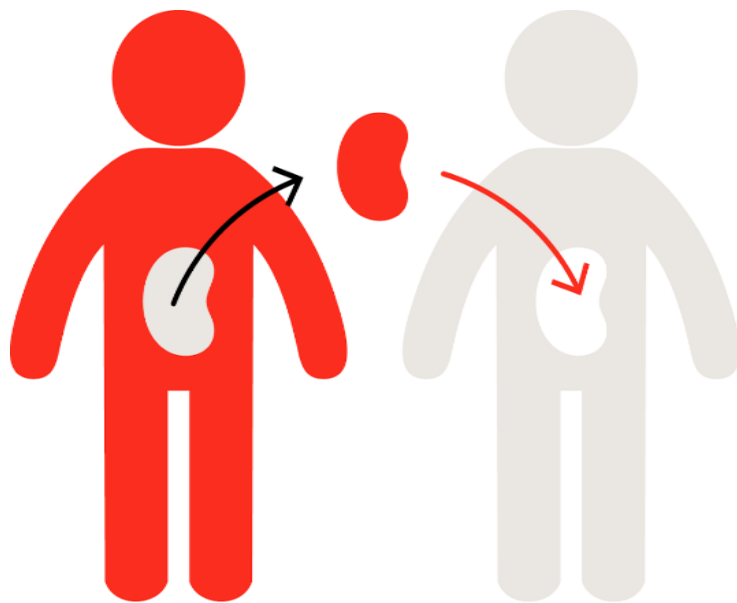


Organ Donation



by

Juan Pedro Roldán, Aditya Mangaonkar, Stefanie Klein

Introduction

Organ donation describes the procedure of giving an organ to somebody who needs a transplant. In most of the times people requiring an organ a donation is the only chance to survive. For this reason, transplants can prolong transplant patients lives or even save it.

Organ donation differentiates between three different types. First, there is a difference between living donation and donation after death.

Living donation is done while the donor is alive. Only such organs are donated, that have a high ability to regenerate or rather that are not necessarily needed to live. Common practice is the donation of a kidney as well as parts of the liver. Nowadays, donations of the placenta are also feasible in some countries.

Deceased donation is either done after the cerebral or the circulatory death.

The cerebral death occurs when there is no activity in a person's brain, due to a severe brain injury, for instant. In this case, the ability to breathe and the consciousness are lost forever. The donation of organs after a circulatory death is not common – in some countries it is practiced though.

The circulatory death occurs after a cardiac arrest. The heart and lung function are lost completely. Organs for a transplantation will only be taken, if the cerebral or the circulatory death is proved. Post mortem donations can be the donation of internal organs, like the heart or the lung as well as extremities, such as the hand.

For an organ transplantation a prior consent of the donor him- or herself is necessary. In case there was no decision of being a potential organ donor or not during lifetime, family members have to decide.

By the age of 16, people are able to decide by themselves about being a potential organ donor. Regarding the age, there are no limits to the top, as long as the organs are in an appropriate condition. Having health or medical issues is not necessarily an exclusion criterion. After death, a doctor will decide whether the donation of organs is possible or not.

However, there are some exclusions in becoming a donor. People having HIV, suffering from the Creutzfeldt-Jakob Disease or cancer are not allowed to become organ donors. The reason for this exclusion is that the risk of transmitting the infection or cancer to the transplantation patient is too high.

History

For centuries, there is the desire to treat organ failure by transplantation. The development of techniques to perform vascular anastomosis in the beginning of the 20th century made this wish even stronger. Vascular anastomosis is the surgically connection between vessels, which is the basis of making organ transplantation feasible.

In 1906, first kidney transplantations have been carried out on two patients. Both of them failed and as there was no alternative than death, when having kidney failure, they died.

Then as now, there was a lack of donor organs limiting the number of transplantations. For this reason, they used donor organs of animals or organs from people died long ago. They failed anyhow.

In the 1950s, several discoveries on the field of organ transplantation as well as surgical improvements led to the first successful kidney transplantation, whose organ originates from a living donor. A few years later the first kidney transplantation from a deceased donor succeeded. It followed several successful transplantations of other organs, such as lung, liver and the heart.

Thanks to improved techniques most of the organ transplantations carried out today succeed. In 2015, there have been almost 40 000 successful organ transplantations only in Europe.

However, five new patients are added to European's waiting lists for organ transplantation every hour and the lack of donor organs leads to the fact that still thousands of patients on organ transplantation lists wait in vain and die.

Eurotransplant International Foundation

Organisations, like the Eurotransplant International Foundation have been established in order to help to improve the situation of organ donation with a result that more human lives can be saved. Eurotransplant was founded in 1967 as an international non-profit organization. The foundation is responsible for the coordination of organ transplantations in its eight member states in Europe, such as the Netherlands, Belgium, Luxemburg, Germany, Austria, Hungary, Croatia, and Slovenia.

Eurotransplant acts as an intermediary between a potential donor and recipient and is responsible for the distribution of donor organs. The aim is to guarantee a maximum use of available organs as well as improving their function as coordinator constantly.

Eurotransplant is only an example regarding the intermediary between organ donors and recipients. In all over Europe there are several comparable organizations, like Scandiatransplant or Balttransplant.

To save even more human lives, an even closer cooperation between the organizations is recommended.

Organ donation and transplant systems

Countries that perform transplants follow several directives regarding who can donate as well as when and how can the transplant be carried out. The main issue regards consent for deceased organ donation, with two different systems, explicit consent and presumed consent, usually known as opt-in and opt-out systems.

Opt-in systems only accept donation after the donor or their close relatives or "next-of-kin" gives consent to donate their organs. Countries following this policy have a national donation organization that keeps track on the people who wish to donate after death. They usually issue a donor card so that people can be identified as donors in case of an emergency. Opt-out systems assume that everybody is a donor unless there is explicit refusal. This refusal can most of the time, like the consent, be done by the family or next-of-kin of the deceased.

Most European countries follow the "opt-out" policy for deceased donation. For living organ donation, the EU regulations clearly state that consent "*must only be taken after clear, comprehensible and honest information has been given to the potential donor*", with them having the right to withdraw from their decision at any time during the process. Both procedures must be completely altruistic and with no economic compensation involved.

Every country follows a different approach for registering who refuses to donate, for opt-out systems, or who gives consent, for opt-in systems. For the former case, countries like France, Belgium, Italy or Slovenia keep a national database in which to register the refusal to donate organs. If it has not been done prior to the death, the system allows the organs to be transplanted. For those countries that have a presumed consent system but lack an official database on refusal, the opposition must be explicitly expressed in some way, like a signed paper by the deceased. If there is no such document, and even if the family of the donor does not wish to continue with the process, organs may be retrieved anyway. It is a decision that concerns the sanitary systems, although the opinion of those close to the deceased are usually respected. After filling an official form that is available in hospitals and other health centers with the convenient identification documents, the wish to donate is saved. Spain, for instance, does not record any non-donation wish, with the Spanish National Transplant Organization (ONT) issuing a card that does not have any legal validity, so the "next-of-kin" has the

possibility to ask to not have the deceased's organs retrieved, even if they had an "official" donor card. Countries following the explicit consent policy register the wish to donate in a similar way to opt-in countries. Denmark, for example, keeps a national database, while Germany issues donor cards with legal recognition.

After consent has been given or rather assumed as, the donation process may continue, according to European Directive 2010/45/EU that provides a general framework for handling and managing the transplant, namely extraction, conservation, transportation and the transplant itself. Organs are usually transplanted within the same country. Due to international cooperation organizations however, it is tried to share the available organs in an international pool.

In the USA, donation works similarly to some countries in Europe, however the private health system means that hospitals decide what kind of donations they are going to perform, with prices and medical equipment varying from one to another.

The system is opt-in. The donation registering is done by Donate Life America, a non-profit organization that collects data from all over the country. Once consent has been proven, the transplant may begin, following the standards given by the US Department of Health and Human Services. The match between receiver and organ is done throughout the country by UNOS (United Network for Organ Sharing), depending on the histocompatibility between them.

Social or religious considerations

None of the major religions opposes organ donation transplant. These major religions include Christianity, Judaism, Islam, Buddhism and Hinduism. Religions, like Judaism even supports live organ donation, until and unless two basic conditions are met. Firstly, that the operation does not significantly endanger the life of the donor and secondly, that the recipient's life will be saved through organ donation transplant.

It is considered that organ donation entirely altruistic act irrespective of whether the donor is alive or dead.

It is the mind-set which makes people feel that religion opposes each and every new thing - it should change. Plus, there are some misconceptions, like the body of the donor is treated badly or the organ which is promised to be taken is not the only one that is taken during living donation.

Merits and demerits

One organ donor can save up to eight lives. And therefore gives transplant recipients a second chance to live. In most cases, opportunities are high that they can live a normal and carefree life after a transplant donation.

Another merit is, that it is possible to donate organs while a donator is still alive. The chance for a patient to receive an organ, such as a liver or kidney, is increased.

People that just have lost a beloved person may feel consolidated because they know that their experienced tragedy would bring goodness to another family and that their family dependant is not died in vain.

However, organ donation has several demerits as well. Families might be confused by the fact that donor bodies are often kept on life support while the tissues are removed. This can have in some cases traumatizing effects on surviving depends.

Another issue might be that recipients reject new organ transplants after some months or even after some hours.

Further, the donor does not usually get to choose who the organs go to.

Many recipients experience psychological complications after donating an organ.

Conclusion

It is not always self-evident to think about organ donation as this topic also means dealing with death. However, thousands of people suffering from an organ failure die every year because they didn't receive an organ. This problem could be prevented, if more people made the decision to become an organ donor and made their relatives aware of that. Further, being a donor won't bring any restrictions or affect your health. Moreover, not even the major religions oppose the organ donation transplant. Actually, they support this altruistic act of life saving. Taking these aspects into account, people should at least confront the issue. There should be awareness programmes for organ donation in society. It should be followed the model and viewpoints of countries like Spain as they are at the top regarding organ donation.

Keeping in mind that only one organ donor can give the gift of life to eight humans should us make thinking about this issue.

References

- <https://www.organspende-info.de/> [Access: 03/11/2017]
- <https://www.eurotransplant.org/cms/>[Access: 03/11/2017]
- <https://www.edqm.eu/en/events/european-day-organ-donation-and-transplantation>[Access: 03/11/2017]
- https://academic.oup.com/bja/article/108/suppl_1/i29/237577 [Access: 07/12/2017]
- [BOE-A-1979-26445](#) Ley 30/1979, de 27 de octubre, sobre extracción y trasplante de órganos (Law 30/1979 about organ extraction and donation) [web version]
- [Directive 2010/45/EU](#) DIRECTIVE 2010/45/EU of the European parliament and of the council of 7 July 2010 on standards of quality and safety of human organs intended for transplantation [PDF]
- <https://unos.org/> [Acces: 17/12/2017]
- <https://www.theguardian.com/society/2017/jan/02/france-organ-donation-law> [Access: 15/12/2017]
- <https://www.registrenationaldesrefus.fr/#etape-1> Registre national des refus (National Registry of refusal) [Access: 15/12/2017]
- <http://www.drze.de/in-focus/organ-transplantation/legal-aspects> [Access: 14/12/2017]
- <http://www.donorrecovery.org/learn/religion-and-organ-donation/> [Access: 14/12/2017]
- Organ transplants: ethical, social and religious issues in a multicultural society. Noorzurani Robson. 2012
- <https://about.jstor.org/terms/> [Access: 14/12/2017]
- <http://advancingyourhealth.org/transplant/2013/04/01/pros-cons-organ-donation/> [Access: 14/12/2017]