Ethical Questions of Tissue- and Organ Transplantation

Jozsef Kovacs MD, PhD
Professor of Bioethics
Semmelweis University of Medicine,
Institute of Behavioral Sciences,
Department of Bioethics

The importance and technical possibilities of organ transplantation

- The first blood transfusion—1667
- Because of its failure such experiments were prohibited by law for 150 years
- Blood transfusion was successfully and widely done in the I. World War
- Skin transplantation—in the 1920s
- Cornea transplantation—in the 1940s
- Kidney, liver, heart—in the 1960s

The need for organ transplantation

- These are no longer experimental methods, but standard treatments
- The need of transplantation for 1 million persons/year
  - 50-70 kidney
  - 40-60 heart
  - 45-55 liver

The result of organ transplantation

- It does not necessarily lengthens the life of the patient (e. g. kidney) but improves the quality of life
- The open discussion of its ethical problems is necessary for public trust and support
- Without public trust a successful transplantation program cannot be operated in any country

The theoretical possibilities of replacing organs

- To use artificial organs
  - This is ethically the best
  - This is possible only by replacing kidneys by haemodialysis
  - Ethical problem: allocation of scarce resources
- To use genetically manipulated non-human organs (xenotransplantation)
- To use human organs (from living donors or from the brain dead)

Problems of justice in chronic heamodialysis

- End stage renal disease (ESRD) can be treated either by haemodialysis or by kidney transplantation
- Ideally 40-50% of patients on chronic heamodialysis should be placed on a transplantation waiting list
- This number is smaller in many countries in Europe

What determines whether one is placed on a transplantation waiting list?

- If nephrologists are reimbursed on fee for service basis, this can be an unconscious motivation not to place patients on waiting lists
- Women, patients belonging to minority groups, patients in poverty have less chance to be placed on transplantation waiting list

The number of patients on chronic haemodialysis I.

- The prevalence of ESRD is 1000 patients/1 million people
- These people would need haemodialysis/transplantation but nowhere are so many people treated
- In Japan and the USA twice as many people are treated than in Canada or in Western Europe
- In France or in Italy treats twice as many patients than Ireland or the UK

Some difference between richer and poorer countries

- In 1992 in Eastern Europe only younger patients with primary kidney disease were treated (their chance for success is the greatest)
- Elderly patients with secondary kidney disease (e. g. diabetic nephropathy, SLE) were not treated
- The richer a country is the more patients are on dialysis

Ethical questions of living organ donation

- Its most frequent form is kidney donation
- There is a trend to increase the number of living donors
- Living donation seems to violate the „primum non nocere" principle
- The Judeo-Christian tradition's injunction against self-mutilation
- Is living donation a form of self-mutilation?

The principle of totality

- One could traditionally remove a gangrenous limb to save the person (a part of the body can be sacrificed for the functioning of the whole)
- The wide interpretation of the totality principle: One can sacrifice the part of her/his body to save her/his psychic and social health (e. g. to save her/his child) (Pope XII Pius)

Some ethical problems of living donation I.

- What relationship is needed between the donor and the recipient?
  - Only genetically related donors?
  - Emotionally related donors?
  - Strangers as donors?
- Is directed living donation acceptable?
- Is criss—cross living donation acceptable?

Some ethical problems of living donation II.

- The principle of free, uncoerced consent to living donation
  - The problem of emotional coercion
  - The problem of moral iatrogenization (Thomas Nagel's concept of moral luck)
- Can incompetent persons (children, mentally handicapped patients) consent to living organ donation?

The concept and definition of death I.

- The history of pronouncing death
  - Traditionally :the cessation of heart-beating and breath
  - The fear in the middle ages of being buried alive (during the great epidemics the dead were not examined thoroughly because of fear of infection)
  - 18th century: the first resuscitation techniques, but then: when death is certain if cessation of heart-being and breath are not proof for being dead?

The concept and definition of death II.

- 1740-1850—Uncertainty in Europe about the time of death
  - Hysterical, widespread fear of being buried alive (E. g. Edgar Allan Poe: The Fall of the House Usher)
- From 1850 on—pronouncing death becomes more reliable
- Some legal regulations to alleviate fear of being buried alive
  - establishing morgues, requiring some time (48-72 hours) between death and burial, etc.

The concept of brain death

- The first heart transplantation in 1967
- Was the donor with a beating heart dead?
- The debate led to the Harvard criteria of brain death (1968)
- Ruled to establish brain-death

Ethical question of organ harvesting from the dead

- Is consent necessary to remove organs from the dead for transplantation purposes?
- Three attitudes
  - No. Organs are public property
  - Yes. Donor card (opting in systems)
  - Yes. Presumed consent systems

Are organs public property?

- Can the dead be harmed?
- If autopsies without consent are permitted, why cannot organ harvesting without consent be permitted?
- Counterarguments
- Today's consensus: some for of consent is needed for organ harvesting
- Are we the owners of our body?
- The quasi-ownership of our body

The principle of positive consent (opting in, contracting in)

- Organs cannot be harvested unless one has given explicit consent to it
- The Uniform Anatomical Gift Act in the USA
- The donor-card
- Countries accepting this model: USA, UK, Canada, Germany, The Netherlands, New-Zealand, Australia, Japan, South-Korea, Thailand, Ireland, South- Africa, an in most Arabic countries and Latin- American countries

Ethical problems of the donor-card system

- In the USA only 20% of the population has a card, although 50% would accept organ harvesting after death
  - This system wastes organs
  - Ultimately the relative decides
  - The right-to self-determination is violated
- The required request law in 1987
  - Its problems

AUTONOMY OF THE DONOR

- An example

ORGAN DONOR NETWORK ASKS FOR CONSENT FOR DONATION

- An example
- What are the two main reasons, that only the organ donation network should obtain consent for organ donation?

PAYMENT FOR DONATIONS

- Is payment for organs ethically acceptable?
- When tissue and organ donation are at stake, when payment is ethically acceptable?
- Can the family overrule a donor card permitting organ donation?

The principle of presumed consent (opting out, contracting out)

- The principle: One has consented to the harvesting of her/his organs after death unless one refused this
- Two forms of presumed consent:
  - Hard form (If there is no recorded protest organ harvesting can be performed)
  - Soft form (If there is no recorded protest relatives still must be asked)

Countries with presumed consent

- Soft form: Finland, Greece, Italy, Norway, Spain, and up to 1988 Sweden.
- Hard form: Austria, Denmark, France, Israel, Switzerland, Belgium, Hungary

Ethical problems of presumed consent

- Arguments in favor of presumed consent
  - This saves lives in the greatest number
  - There is no need for costly campaigns
  - There is no need to ask relatives, which can be burdensome for both the physician and the relative in acute grief
- Arguments against presumed consent
  - This regards organs as public property
  - Its starting premise is false

Ethical assessment of presumed consent

- It can be ethically correct if
  - The public is aware of the law
- If the public is uninformed, soft presumed consent is preferable
- The European Council proposed presumed consent laws for its member states

The role of the transplantation coordinator

- The difficulty of ICU-s in reporting potential organ donors
- The main task of the coordinator is to convince the ICU staff to participate in the transplantation program
- To do this the coordinator must concentrate on the interests of the ICU, and not on those of the transplantation institution

The debate about the selling of organs

- There is a growing shortage in transplantable organs worldwide
- A market of organs would provide organs of sufficient number
- Some propositions:
  - To permit the selling of organs of dead donors
  - The radical view: to permit the market of living organ donations

Argument in favor of selling organs

- There can be two arguments to prohibit something by law:
  - The act harms others
  - The act harms the one who does it
- But who is harmed by selling an organ?
- The person who buys the organ is benefited
- The persons who sells it does what (s)he regards the best for her/himself
- Is not it paternalism to prohibit it?

Arguments against the selling of organs

- This would lead to the „migration” of organs
  - From poor countries to the rich
  - From poor persons to the richer ones
- This would lead to a redistribution of health
- One must not permit for the poor to sell the one and single thing (s)he still has: her/his health (organs)

The argument in favor of a regulated market of organs

- The unregulated market of organs would lead to intolerable consequences:
  - Organ brokers, middlemen would get rich and not the organ donor
  - Diseased donors would conceal their disease, so the quality of transplanted organs would fall
- The idea of a regulated market of organs
  - Only non-profit organizations could explant organs
  - Committees would permit every single transactio9n
  - A required waiting time (e. g. 6 month) when selling is considered etc.

Conclusion about the market of organs

- Human body is not a commodity, selling its organs would debase it
- The market of organs would put an end to altruistic organ donation
- The quality of organs would decrease
- The difference between organ traffic and compensated donation in India
- Some propositions against illegal organ traffic (Transplantation Society)

Ethical questions of using embryonic and fetal tissues

- The experimental use of fetal tissues for therapeutic purposes (e. g. Parkinson-, Alzheimer disease)
- Tissues gained from induced abortions are used
  - Cannot this encourage more abortions?
  - Cannot this lead to the commodification of the mother and the fetus?

The principle of independence

- The use of fetal tissues is ethically permissible if the motive of induced abortion is independent from the desire to gain fetal tissues
- Is it necessary to get the informed consent of the mother of the fetus?
  - No—this is unacceptable
  - Yes—this violates the principle of independence
  - Solution: The use of fetal tissues gained from ectopic pregnancies

Can anencephalic newborns serve as organ donors?

- The lack of transplantable newborn organs
- The suggestion to use the organs of anencephalic newborns
- They will die within weeks, but they are not brain dead—their brain stem is functioning
- Can we use another definition of death in that case?
  - American Medical Association—yes
  - But this is dangerous because it would use a double standard in the definition of death which is unacceptable