

## Prince or Shoemaker

Jian Gao<sup>1</sup>

<sup>1</sup>(International Education School, China Medical University, P. R. China)\*

**ABSTRACT:** This is a case study of PBL (Problem Base Learning) in medical ethics course for medical students. There are four questions are going to discuss: 1. What are the obstacles of organ donation and transplantation in China? 2. How to solve the problem of insufficient organs in transplantation? 3. What are the problems in organ transplantation? How to avoid and solve it? 4. Are you wishing to donate your organs after you die? And why? This paper represents author's views and experiences. Not only domestic, but also overseas; not only legal disputes, but also persistence of social moral standards. Go through studies of ethics in human organ transplantation, we would be able to lay a solid foundation for examination of Chinese medical practitioners and become a real medical scientist accompany with medical humanistic feelings.

Keywords-ethical issues, human organ donation, organ transplantation, organ transplantation issues

### I. INTRODUCTION

Organ transplantation refers to a process of extracting all or part of organs such as heart, lung, liver, kidney or pancreas with physiological function and implanted into recipient body to replace the damaged organs [1] [29] [82]. At present, according to the different sources of donor organ, organ transplantation is also divided into cadaveric organ transplantation, live organ transplantation, xenogeneic organ transplantation, fetal organ transplantation [3] [17] [20] [29].

Organ transplantation technique has been the last chance of living for many patients; when organ failure occurs in patient at the end, organ transplantation is the only way to keep the patient alive [1]. But this technique includes the donation, extraction and implantation of organs. Each procedure involves the legitimate rights and interests of different parties, which leads to more social, ethical and legal problems than general medical technology. Therefore, it needs to be adjusted and regulated by complete ethical principles and legal provisions [1].

Four problems are discussed in this paper:

- 1) What are the obstacles to organ donation and transplantation in China?
- 2) How to solve the problem of insufficient source of organ transplantation?
- 3) What problems will occur in organ transplantation? How to avoid and solve it?
- 4) Would you like to donate your organs after you die? Why?

It is not only referenced in literature, but also actual descriptions of author's own experience.

### II. WHAT ARE BARRIERS TO ORGAN DONATION AND TRANSPLANTATION IN CHINA

In aspect of living organ donation, the limited scope is narrow, the cross organ transplantation is illegal, review of clinical application and ethics committee of human organ transplantation technology is insufficient; in aspect of cadaver organ donation, provincial provisions on priority distribution of cadaver organ transplantation are not unified, advocate and encourage public organ donation after death are lack, and death judgment standard of brain death is not established [2] [8] [17] [19] [20] [24] [46] [40] [42] [68] [82] [87] [89] [92].

In China, organ donors are limited to stepparents and adoptive parents. Although this rule would be able to prevent organ sales to a certain extent, it also refuses other forms of organ donors. Moreover, traditional culture is deeply rooted in China. "Blood is thicker than water in everything" this was the old saying used to be in Chinese society. The relationship between adoption and upbringing is estranged. This kind of stable emotional and social relationship is actually not stable.

In the case that two or more patients do not match their own relatives' organs and match the other's relatives' organs, they can exchange organs and carry out human organ transplantation with the consent of both or more parties. This kind of cross transplantation is allowed in the United Kingdom, the United States and other countries, but it needs special agencies to review and approve. Cross transplantation is allowed in these countries and good results have been achieved.

In China, different ethical committees in different places will have different results for the same case, which will lead to unfair clinical application of organ transplantation to a certain extent.

Organ donation and blood donation are still quite different in China. According to perspective of donors and beneficiaries, the authorities of organ transplant donors and beneficiaries in China are different across provinces and cities. Compared with Chongqing and Hubei Province, Hubei Province has expanded the beneficiaries of organ donors to their collateral relatives.

In Germany, it is necessary to clearly fill in written opinion on whether to agree donate body; on back of California's car driver's license, it is possible to fill in a legal body organ donation form; in Hong Kong and Taiwan, organ donation cards also play a very important role in promoting donation of body organs; Singapore and Spain are both countries remains high official donation rate, they all adopt the default method of donating body organs, that is, if they do not sign rejection letter before they die, they will be regarded as donating body organs.

China has always followed death criteria of cardiopulmonary death, and did not take occurrence of brain death as the criterion of death. Because people with extracorporeal ventilator and other life support systems can maintain their vital signs in case of cardiopulmonary function loss, they would not be able to determine death of patients, which is greatly reduces survival rate of organs and wastes valuable medical resources.

### III. HOW TO SLOVE PROBLEM OF INSUFFICIENT SOURCE OF ORGAN TRANSPLANTATION

Expanding source of donor is an effective way to solve development of human organ transplantation and reasonable allocation of human organ transplantation in China [2] [14] [29]. In living organ transplantation, sale of human organs may take place between non-relatives or relatives [20]. Most donors of illegal underground organ transplantation are lured to sell their organs "voluntarily", and there are many young people who are not familiar with world. Most of the recipients of illegal underground organ transplantation are domestic patients, but there are also "tourists" from abroad [20].

China is a country with a large population. According to common ratiocination, there should be no shortage of organ donors for Chinese people. However, supply and demand exist at the same time. Therefore, there is a large number of donors and a large demand. Under condition of high demand for organ transplantation, it would not be able to really achieve mutual satisfaction of supply and demand, nor would it effectively achieve popularization of organ transplantation in time. The lack of donors in organ transplantation is undoubtedly primary problem occurring in China. However, a series of chain reactions derived from this problem have formed following figure, figure 1

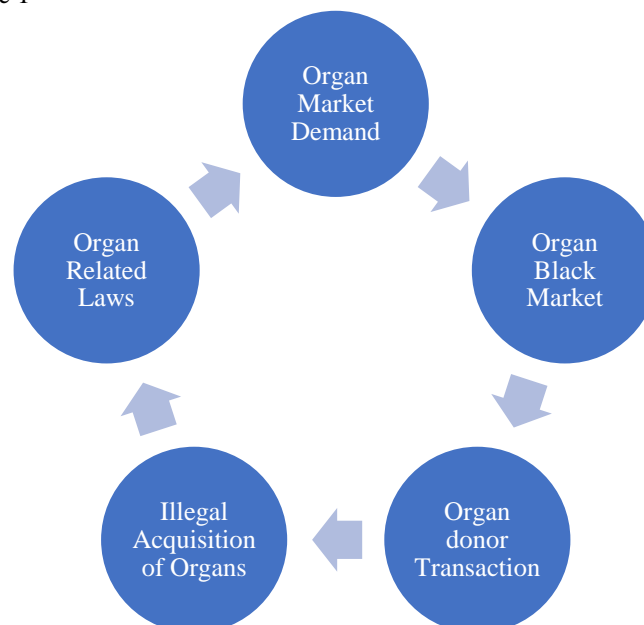


Figure 1

Essence of economics has always been to show that scarcity is most important thing. How much interest there is, naturally, how much risk someone will take to pursue it. Especially in the third world countries, underground market transaction of organs is very rampant and would not be stopped repeatedly. In fact, this is

one of solutions to problem of insufficient source of organ transplantation. However, such a method is wrong both in law and ethics.

In order to solve problem of insufficient source of organ transplantation and solve actual needs of patients, it is necessary for people to participate in and consciously abide by relevant regulations to protect rights and interests and legitimacy of donors. Based on global citizens, we should support a multinational, shared big data of organ information supply and demand, timely and effectively realize synchronization of organ transplantation, so as to benefit more people. We should not let identity, occupation, wealth, age, and other individual differences impact supply and demand be treated differently, so that supply and demand can be treated equally.

With gradual progress and development of science and technology, artificial organs are mature, and dream of mass production of artificial organs is not impossible.

Development of stem cells, cloning technology and other genetic engineering, supply of human organs may be able to break through shackles of itself, so that more people can be better survive and continue their lives. On premise of not violating human ethics, mature and reliable medical bioengineering technology can provide more possibilities for human organ transplantation.

#### **IV. WHAT PROBLEMS WILL ARISE IN ORGAN TRANSPLANTATION AND HOW TO AVOID AND SOLVE THEM**

In order to increase source of organs, save lives of more waiting for organ transplanters and promote development of organ transplantation technology, American organ transplantation society proposed tasteful donation of organs in 2003 [3] [39]. Possible organ transaction and organ commercialization caused by paid donation are worth thinking deeply. Negative impact of organ commercialization on society is beyond doubt, which may lead to emergence of crime or underground organ trading organization. When discussing paid donation, we must emphasize essential difference between paid donation and official commercialization; paid is moral appreciation and body of donor; the compensation of trauma is not equal to value of organs [3] [33] [88]. Iran began to implement paid living non relative's kidney transplantation program in 1988 after implementation of plan, the number of renal transplantations in Iran gradually increased, in 1999, the list of renal transplantation was eliminated completely [3] [91]. The success of Iran model confirmed feasibility of paid donation of human organs, and also brought some enlightenment to construction of paid donation model of human organs in China [3] [91]. The key procedure of Iran model is as follows: (1) before renal transplantation, doctors should first advise whether relatives of patients donate, if they are not willing to donate, dialysis and transplant patients association will find appropriate organ donors and contact donors; (2) government should bear the expenses of renal transplantation without intervention of end institutions; (3) donor can receive government bonus and medical insurance, and receive reward of receptor and organ organization; (4) process of organ acquisition is supervised by the Iranian Organ Transplantation Association; (5) foreigners can not obtain Iranian non relatives [3] [91]. To construct model of paid donation of human organs in China, we should fully combine national conditions and cultural tradition of our country, and construct paid donation system of human organs from aspects of ideology, system and legislation [3]. Firstly, we should increase publicity of paid donation of human organs, so that masses would correctly understand paid donation of human organs, and avoid misunderstanding about paid donation of organs; secondly, we should pay attention to establishment a compensation system of organ donation in system, not only about obligations, but also rights, which makes organ donors have concerns about health protection after organ donation [3] [45].

With emergence of new technology, new equipment and new methods, large-scale informed consent violations, gold rice events, He Jiankui gene editing events and other social ethical issues of life science have aroused widespread attention, it is necessary to further establish and improve medical ethics laws and regulations to solve ethical problems in medical research, medical technology application and medical services [7] [45]. Wang Jingcheng suggested that "medical ethics review law" be formulated to clarify implementation rules of relevant laws of national medical ethics; administrative departments at all levels should formulate specific operating procedures; establish coordination mechanism of multiple departments' linkage law enforcement; and establish a unified medical ethics committee system [7]. National and regional ethics supervision and administration departments can be established on basis of National Health Commission and provincial existing ethics expert committee or ethics review guidance and consulting organization, or national and regional ethics supervision and management departments can be established in multiple prefecture level cities [7] [12] [32] [45] [54] [59] [83] [86] [90].

As for commercialization of organs, consensus formed by medical and ethical circles is that organ commercialization can lead to organ crime, desecration of human dignity, and challenge in equality of life brought by difference between rich and poor [10] [25] [36] [38] [39] [42] [55] [67] [73] [83] [84] [89]. If difference of material wealth or spiritual wealth brings about the difference in social status, family relationship and interpersonal communication, etc., it is acceptable, then equality of all people in life value is final bottom

line, and equality of right to life is an important embodiment of human rights. If the rich can buy organs of poor and rich can consume lives of poor, what will vulnerable groups regard as human beings? Confucianism is essentially a knowledge of justice and dignity, which improves knowledge of human dignity, and it teaches people how to get rid of shamelessness, despicability and inferiority; it teaches people how to be resolute and noble. When we say classical sentences "poverty without flattery, wealth without pride", "wealth can not be prostituted, poverty and lowliness can not be moved, power can not be bent", "three armies can seize handsome, and Pitt can not seize ambition, heaven and earth have positive spirit, moral root", "sacrifice life and righteousness", and then there is a great natural spirit in our heart, dignity is an important basis for human being, whose core is human dignity, which is inherent, inherent value and dignity, dignity and inviolability of human beings and individual qualifications [10]. In traditional culture, Buddhism and Taoism all preach idea of equality among all living beings except Confucianism. One of important backgrounds of Buddhism is to oppose caste hierarchy system prevailing in ancient India, and therefore emphasizes equality [10]. The Huayan Scripture said: "heart Buddha and all living beings are three different." No difference is another expression of equality [10].

In fact, ethical issues concerning organ transplantation would be able to discuss in a typical case [21]. In 1970s, a burglar in California, USA, suffered valve damage due to virus infection, organ transplantation was needed in critical condition [21]. He has been sentenced to 14 years in prison at this time, and organ transplantation costs \$1 million and a lot of treatment costs after operation [21]. Therefore, dispute about whether criminal should be treated has aroused controversy [21]. From legal point of view, although prisoner infringes on interests of others, he has paid a price for his behavior in prison, so he should enjoy the same right to be treated as others [21]. Even if taxpayers are reluctant to invest money in treatment of criminals, they can not deny criminal's rights legally. Thus, Supreme Court of United States in 1976 ruled that criminal must be provided with adequate medical services and have right to organ transplantation [21].

According to statistics of international organ donation and transplantation in 2008, average number of donors in Spain has reached 38.1/million, 42.4/million in the United States, 20.5/million in the United Kingdom, 25.7/million in Italy and 14.6/million in Germany [29]. Current situation of organ donation in China is not optimistic; according to statistics of international organ donation and transplantation in 2008, average number of donors in China was only 0.03/million, while average number of donors in Hong Kong was 13.3/million, a total of 93 [29].

The United States, Japan, Spain and other developed countries mainly adopt mode of encouraging voluntary donation countries to perform limited obligations in organ transplantation, and regulate source of human organs to solve problem of organ shortage, the value of its legislation is supremacy of individual rights and consideration of social interests, which is in line with trend of human rights theory in nowadays' world [29] [55]. State first guarantees absolute safety of organ provider's interests and absolute purity of subjective motivation unconditionally, and then considers needs of organ recipient's right to life and health [55]. Under such a strict condition, even if organ provider voluntarily provides his own organs with compensation, it not only meets requirements of patients' life and health, but also meets their own interests, and does not affect their quality of life, nor it is permitted by law, even at the expense of patients' right to life and health [55]. As a result, although the United States, Japan and Spain have made great efforts in developing source of human organs, they have constructed a relatively perfect organ donation system and related operational mechanism, organ donation rate of our country has reached world's top level, but actual donation rate is not high [29] [55]. In the United States, there are organ donors per million people; in Spain, organ donors account for the highest proportion of cases per million people, which is one million people; in Japan, there are less than one million kidneys voluntarily donated for transplantation due to brain death [55]. Organ shortage is still serious, which forces some patients to use the way of tourism to obtain organs in countries with relatively low economic development level, the harsh reality makes some countries have to re-examine their national obligation mode, and have to return to the road of realism to take some pragmatic measures to deal with organ shortage [55]. The conservative Health Minister of Singapore, Xu Wenyuan, also declared that "due to the shortage of transplantable organs and black market of organ trading, legalization of organ trading has become an option." [29] [55] The Ministry of health of Singapore is considering legalizing sale of human organs, but prerequisite is to find a "practical solution to let non relative kidney donors get reasonable remuneration without violating morality and touching other people's sensitive nerves" [29] [55]. Although he later clarified that he still maintained the original view of banning the sale of human organs, but should not exclude any "ideas based on practical considerations", these loose signs show that limited mode of state obligations is actually a one-sided mode of fulfilling obligations that state should not do its best to fulfill, if this mode is not reasonably revised, problem of organ shortage in western society will be solved to a higher extent [29] [55]. The former Soviet Union adopted mode of limited performance of state obligations in human organ transplantation to regulate source of human organs to solve problem of organ shortage, the value of its legislation is supremacy of public interest and social value, and it plans all aspects of social life in a centralized way of nationalism, private property rights and personal values are seriously devalued in context of socialist public interest and inviolability of public property [55]. From standpoint of public interest

and social value, State adopts theory of state and social resources, it holds that human remains are social resources, and individuals are part of society, they should undertake social and public obligations, body of an individual should be disposed of and disposed of by the society [55]. It is not only legal but also in line with socialist moral value orientation that state compulsorily collects the organs from dead body for organ transplantation [55]. Although this kind of compulsory collection of organs from dead body maximally guarantees source of organs and achieves certain social effects [55]. However, we should also see that, value of this model lies in supremacy of state and autocracy of state. It does not consider and respect rights and freedom of individual, it implements expropriation policy on the premise of squeezing the free space of the individual as much as possible [55]. Although it meets needs of patient's life and health, it may hurt personal feelings of organ donor himself and his family members, however, there is no way to get relief and compensation for this kind of emotional injury, there are serious defects in design of this system, it has done its national obligation in protecting the source of human organs, but has given up its national obligation in respect and protection of human rights [55]. On the one hand, state emphasizes supremacy of social and public interests, requires citizens to sacrifice their personal interests to meet needs of public interests, and abandons respect for citizens who sacrifice their personal interests; state abandons reasonable compensation for loss of interests of those who sacrifice for social and public interests, abandoning state's protection of their rights violates the principle of balance of social interests, and it is difficult to fully reflect spiritual essence of respect, protection and realization required by state obligations [55]. Therefore, after collapse of former Soviet Union, subsequent Russia abandoned this model and prohibited forced removal of human organs, article of criminal code of the Russian Federation, which came into effect in, clearly stipulates "the crime of forcibly taking human organs or tissues for transplantation" [55]. It is the duty of the Islamic state to regulate source of human organs, for example, to save human beings from organ shortage as scholar Nurman said, "Islam not only does not prohibit organ transplantation, but also encourages use of high-tech technology of organ transplantation to save more lives, because Islam believes that human beings are most noble life on earth, and maintaining life is the first consideration of human beings" [55]. It is conducive to continuation of life, it is primary standard for Islam to evaluate whether a certain behavior is moral or not, therefore, organ transplantation, as an effective means to treat diseases and maintain life, is in line with spirit of Islamic ethics, it is precisely because of this religious belief that the Islamic world encourages and appreciates donation of its own organs in order to save other people's lives, he believes that this is a just act, encouraging people to sacrifice their own interests for cause of justice, even at cost, because according to principle of value ladder, "when both evils are inevitable, choose one with smaller evils", which is more important for saving the life of others than for preserving integrity of donor's body or corpse [55]. Compared with patient's life and death, organ transplantation does less harm to donor's body than regardless of patient's life and death [55]. Therefore, organ transplantation is permitted, however, we firmly prohibit trade of human organs, we believe that it does not conform to Islamic law and ethics [55]. However, we do not object to voluntary donation of property by organ transplant recipients and their relatives out of gratitude, based on this cultural soil, the Iranian government dares to encourage organ donation without violating principles of Islamic doctrine, and to provide rewards and material compensation to donors and payment to sellers by means of state funding, so as to expand source channels of organ donors as far as possible and fully realize value purpose of "the most noble human life" [55]. Although this practice has expanded source of organs and solved the problem of organ shortage to a large extent, principle of value ladder that the country follows is that "when both evils are inevitable, choose the one with less evils" and that right to life and health is higher than right to dignity of dead, which is controversial [55]. System design of country is based on its unique Islamic religion, it lacks legal spirit of respect and protection of modern human rights, and its values are not consistent with current trend of thought of human rights protection [55]. Therefore, design of its system arrangement and operation mechanism is difficult to be generally accepted and has no universal value [55].

Some time ago, accident of transplanting AIDS organs in Taiwan caused extensive discussion, accident of transplanting AIDS organs was due to special requirements of organ transplantation for efficiency: in order to complete operation as soon as possible and ensure success of organ transplantation, steps of reviewing organ test reports were omitted, results there was a problem in communication between laboratory technician and coordinator [60]. Based on trust of coordinator, doctor did not reconfirm it 48 hours after transplant operation, hospital accidentally found that HIV test was positive in written organ test results report, as a result, not only 5 donors but also more than 40 medical staff were at risk of infection due to their exposure to AIDS organs, this event, known as the biggest disaster in history of medicine in Taiwan, immediately aroused widespread concern [60]. How to actively deal with recurrence of such incidents? Strengthen publicity and guidance to form a correct social atmosphere; learn from the international advanced experience, combined with their own specific reality, we can start some attempts, such as establishing a national organ transplantation work organization, carrying out relevant publicity and education work; unify understanding, standardize behavior in medical field; strengthen risk awareness of medical institutions, and crack down on illegal organ transplantation [60].

## V. Are you willing to donate organs after death, why?

"I will."

People who want to survive will not give up any chances to survive. It depends on how you define survival. Cells have memory function. When my organs are transplanted to other people, to a certain extent, my memory is continuing and I am still alive. So:

"I will!"

Maybe one day, a prince is a shoemaker, and a shoemaker can be a prince.

## VI. ACKNOWLEDGEMENTS

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