Solid Organ Transplantation: An Ethical Dilemma – Case Report

Solid Organ Transplantasyonu: Etik İkilem – Olgu Sunumu

(Olgu Sunum)

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ABSTRACT

The shortage of cadaveric organ donors continues to be a major problem for solid organ transplantation in Turkey as well as across the world. Due to this shortage, the use of marginal and expanded criteria donors has become a current issue to increase the number of transplantation and to decrease waitlist mortality rates. The use of organs of marginal donors with a history of or active central nervous system tumor has been one possible solution to increase the number of donors in organ transplantation. While this is a life-saving practice for waitlist patients, it constitutes a risk of malignancy originating from donors. This is an important issue that should be discussed in the field of transplantation and ethics. This case study aims to discuss an ethical dilemma of liver transplantation from a donor with a history of central nervous system tumor to a patient in need of emergency liver transplantation. It is considered that the decision-making process for the use of marginal donor grafts in solid organ transplantation should be managed in accordance with ethical principles.

Anahtar Kelimeler: *Donor, ethics, ethical dilemma, malignancy, organ transplantation*

ÖZ

Kadaverik donör sayısındaki yetersizlik, tüm dünyada ve Türkiye'de organ transplantasyonunda en büyük sorun olmaya devam etmektedir. Bu organ sınırlılığı içinde, transplantasyon

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sayılarını artırmak ve bekleme listelerindeki mortaliteyi azaltmak için marjinal donörlerin ve genişletilmiş seçim kriterlerinin kullanımı gündeme gelmiştir. Aktif santral sinir sistemi tümörü bulunan ya da santral sinir sistemi tümör hikayesi olan marjinal donörlerin organlarının kullanımı organ naklinde donör sayılarını artırma stratejilerden birisi olmuştur. Bu donörlerin organlarının kullanımı, organ bekleyen hastalar için bir taraftan hayat kurtarıcı olurken, diğer yandan donör kaynaklı malignansi riski oluşturmaktadır. Bu durum transplantasyon ve etik alanlarında tartışılması gereken önemli bir konudur. Bu olguda, acil karaciğer nakline ihtiyaç duyan bir hastaya santral sinir sisteminde kitle öyküsü nedeniyle beyin ölümü gerçekleşmiş kadavra donörün karaciğerinin nakledilmesi konusunda yaşanan etik ikilemin tartışılması amaçlanmıştır. Solid organ transplantasyonunda marjinal donör greftlerinin kullanımına karar verme sürecinin etik ilkeler doğrultusunda yönetilmesi gerektiği düşünülmektedir.

Key Words: *Donör, etik, etik ikilem, malignite, organ transplantasyonu*

INTRODUCTION

Solid organ transplantation has become one of the most important treatment modalities to improve both the length and the quality of patients with end-stage organ failure. The shortage of cadaveric organ donors continues to be a major problem for solid organ transplantation in Turkey as well as across the world[1,2]. Due to this shortage, the use of marginal and expanded criteria donors has become a current issue to increase the number of transplantation and to decrease waitlist mortality rates[3-5]. Marginal donors fail to satisfy the ideal donor criteria and present clinical characteristics such as advanced age, poor medical history, risk of malignancy and sepsis, obesity and long stay in the intensive care unit[6]. Donors with central nervous system (CNS) malignancies are considered to be marginal donors.

The use of organs of marginal donors with an active, or history of CNS tumor has been one possible solution to organ shortage[7,8]. While this is a life-saving practice for waitlist patients, it constitutes a risk of donor-induced malignancy. This has given rise to a heated debate and an ethical dilemma. In our case, we discuss an ethical dilemma of liver transplantation from a donor with a history of CNS tumor to a patient in need of emergency liver transplantation in accordance with the UNESCO Universal Declaration on Bioethics and Human Rights. This case involves an ethical dilemma between the risk of malignancy and saving a patient's life, and how the decision making process is managed.

CASE REPORT

A thirty-two-year-old woman diagnosed with acute liver failure was admitted to the Gastroenterology Surgery Clinic of a state hospital. After some assessments, it was decided that she needed a liver transplant for survival. Having met the eligibility criteria for emergency liver transplant, she was registered in the Turkish Organ and Tissue Information System and placed on the emergency liver transplant waiting list. In 12 hours, a liver donor was found as a response to an emergency call, and information about the liver donor was delivered to the organ transplantation center of the hospital. The transplantation center was informed of the exact cause of the donor's brain death, which was due to a CNS tumor, the type of which was not determined.

The likelihood of metastasis was not determined either, because a tumor biopsy could not be performed. Abdominal ultrasonography showed no evidence of metastases. As information about the donor was being received, the patient's hepatic encephalopathy progressed to grade 4, and INR (international normalized ratio) and liver function worsened. She had a cardiac arrest, and therefore, cardiopulmonary resuscitation and endotracheal intubation were performed. At that point, the liver transplant team was faced with a dilemma; a liver transplantation from a donor with a history of CNS tumor to a patient who is about to die. Thus, the case was discussed in accordance with medical conditions and ethical principles by the liver transplant team consisting of liver transplant surgeons, gastroenterology specialists, transplant nurses, transplant coordinators, pathology specialists, radiologists, anesthesiologists and psychologists. As the patient's vital functions worsened and she lost consciousness, the team decided to transplant the liver. Her medical condition, the donor's characteristics and the cause of the donor's brain death were explained in detail to the patient's relatives, and informed consent containing all this information was obtained from them. Radiological examination images of the donor were also provided and assessed by the radiologists of the transplant team. Biopsy specimens taken from the brain mass and the liver graft were brought to the transplant center, and biopsy was performed on both of them. The liver biopsy showed no pathological findings and the brain mass biopsy showed no high grade malignancy. Therefore, the liver was transplanted into the patient. She is still alive three years after the operation.

DISCUSSION

At the heart of bioethical principles are human dignity and human rights, to which healthcare professionals are expected to show absolute respect. Healthcare professionals should give priority to their patients' lives, health and well-being over the interests of science or society[9]. The Universal Declaration of Bioethics and Human Rights states that "the patient's direct or indirect benefits must be maximized and potential harm to the individual should be minimized in the application and progression of scientific knowledge, medical practices and related technologies"[9]. In our case, liver transplantation from a donor with CNS malignancy to a patient who urgently needed a liver transplant has created a dilemma in the sense of benefit and harm. In such cases, transplant teams should make a decision by weighing the risk of death without a transplant against the risk of death after transplantation due to the development of malignancy originating from the donor[10,11]. In our case, the patient's condition was getting worse and she was going to die unless she underwent liver transplantation as soon as possible. It was, therefore, reasoned that liver transplantation would save the patient's life and provide maximum benefit to her. On the other hand, liver transplantation from a donor diagnosed with tumor of unknown origin, together with the effects of immunosuppressive drugs, increased the risk of malignancy development and hence harm to the patient. In our case, the transplant team gave priority to saving the patient's life over the risk of malignancy development, and decided to transplant the liver. Research shows that the risk of post-transplant malignancy is very low unless donor grafts with high grade CNS tumors are used. Therefore, the use of marginal donors for organ transplantation can improve both the length and the quality of waiting list patients with a high risk

of mortality[3,4,10,12-14]. Biopsy of specimens from the brain mass and liver graft for the classification and grading of CNS tumors, and abdominal screening of the donor are useful prior to transplantation. Research also shows that there is no difference between the length of graft life taken from donors with and without CNS tumors[4,10].

The Universal Declaration of Bioethics and Human Rights emphasizes the principle of respect for patient autonomy and states that patients' decisions to accept or reject medical treatment should be respected provided that they take full responsibility for their decisions and that those decisions do not infringe upon the autonomy of others. It is also reported that all possible medical interventions can be performed as long as the patient has been fully informed of their potential benefits and risks, and is competent to give consent to treatment freely and consciously prior to intervention[9]. In our case, the principle of autonomy and personal responsibility could not be fulfilled because the patient lost consciousness due to rapid progression of hepatic encephalopathy. People who temporarily cannot make decisions such as those with loss of consciousness do not have the capacity to give consent[15]. In our case, the consent could not be obtained directly from the patient. However, her family members were informed in detail on her condition and the donor's attributes, and informed consent was obtained from them. It is recommended, in the management of this type of cases, to inform the patient or the family members in detail regarding the attributes of the marginal donor and to use a case-specific consent form that includes all that information as well[3,13,14]. The Universal Declaration of Bioethics and Human Rights states that the "sensibility of the individuals must be considered in the application and development of scientific knowledge, medical practices and related technologies. Individuals and groups with personal sensitivities must be protected and dignity of these individuals must be considered"[9]. In our case, the patient was unconscious and therefore unable to communicate approval of or objection to the surgical intervention. However, the transplant team, following multidisciplinary approach, decided to transplant the graft liver into the patient in the most secure way possible. Besides, the patient's family members had been informed of the entire process and their consent had been obtained prior to surgical intervention.

CONCLUSION

How to deal with the ethical dilemma of organ transplantation from donors with malignancy or a risk of malignancy? This is an important issue that should be discussed in the field of transplantation and ethics. These cases should be managed by multidisciplinary transplant teams. Nurses included as transplant nurses and coordinators in transplant teams should be aware that they are also responsible for the management of such cases in accordance with ethical principles. In conclusion, it can be stated that the transplant team was successful in handling the case in conformity with ethical principles.

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