Liver transplantation in Turkey: The importance of experience

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The liver transplantation field has experienced significant improvements in the past 2 decades. It has become a standard therapy, especially in end-stage liver disease, acute liver failure, and some metabolic diseases as well. With factors, such as an effective use of immunosuppressive drugs, development of surgical techniques, improvement of intensive care conditions, and growing experience, the survival rates of liver transplantation are gradually increasing. After the 1980s, the liver transplantation from cadaveric donors has also gradually increased over the years. The number of patients waiting for the liver transplant has increased too.

In recent years, limited organ availability has become one of the major problems in liver transplantation. Cadaveric donors alone cannot meet increasing organ requirements. For this reason, some countries have also opted for live donor liver transplantation (LDLT) to meet the needs of the organ requirement. In some countries, cadaveric donors are not used for liver transplantation due to several reasons. Therefore, only LDLT is performed. The rates of deceased donor liver transplantation (DDLT) are high in Western countries. On the other hand, the LDLT rates are higher in some Asian countries. The most important reasons for the higher rates of LDLT in Asian countries are religious reasons and a lack of knowledge concerning organ donation. In countries such as Turkey, there is a quite an insufficient organ donation rate. Thus, the LDLT constitutes about two-thirds of liver transplants in Turkey. Although the experience with the LDLT in the world and in our country is growing, the main target is to promote the awareness of the organ donation.

The first liver transplantation in the world was performed by Thomas Starzl et al. (1) in 1963 but the patient died. The first successful liver transplantation was performed by the same team in 1967 (2). The first successful LDLT was reported in 1989 by Strong et al. (3). In Turkey, the first liver transplantation was performed in 1988 by Haberal et al. (4) The first successful partial LDLT was performed in 1990 by the same team.

With reference to the 2010 data, the annual DDLT and LDLT numbers in Western countries, such as Spain, the United States, Belgium, and Austria were 24.5/0.7, 11.5/0.4, 12.5/3.0, and 19.0/0.5 per million people, respectively. For comparison, these figures in Asian countries, such as Korea, Japan, and Taiwan were 6.0/17.0, 0.05/4.0, and 4.0/16.0, respectively (5). In 2013 Turkey reports, yearly DDLT and LDLT numbers per million people were 3.7 and 12.5, respectively.

The national organ-sharing program was initiated in 1989 by the Ministry of Health in Turkey. In 2001, the Ministry of Health established the National Coordination Centers for the allocation of deceased donors. Nine National Coordination Centers have been established in big Turkish cities. Currently, there are more than 45 liver transplant centers in Turkey. However, only approximately one-quarter of them can perform more than 20 liver transplants per year.

The Ege University is one of the major centers that pioneered the development of liver transplantation in Turkey. In this article, 1001 patients who underwent liver transplantation at the Ege University have been reported. The authors presented 23 years of experience of their center. Between 1994 and 2017, a total of 1001 liver transplants have been reported in 989 patients. A total of 43% of these liver transplants were the cadaveric organs and 57% were LDLT. This rate is showing a gradual trend across the country toward the LDLT. Therefore, increasing the organ donation rate in Turkey is of great importance. The annual mortality rate in this center was reported as 13% at the first monitoring. Retransplantation was performed in 12 patients in the Ege University Organ Transplantation and Research Center. The mortality rate in retransplantation was observed to be 66% in this center. The 1-year survival rate was reported to be 87%. The 1-year, 5-year, and 10-year survival data were not report-

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ed from all the liver transplantation centers in Turkey. The collection of these data will provide important information about the success of liver transplantation in Turkey. However, some centers can offer only these data.

The most common cause of liver transplantation in adult age groups in Turkey is viral hepatitis. In the pediatric age group, cholestatic diseases are the most common cause of liver transplantation. In the adult age group, 64% of patients had liver transplantation due to cirrhosis at the Ege University. The most common cause of cirrhosis is hepatitis B (about 60% of patients with cirrhosis) in Turkey. In the pediatric age group, 69% of patients were transplanted due to cholestatic diseases. Majority of cholestatic diseases for pediatric patients was constituted by biliary atresia and Progressive Familial Intrahepatic Cholestasis group in this center. The median MELD score was 20 in patients with the liver transplantation performed in the Ege University. Only the MELD score of 14 or above can be listed on the cadaveric waiting list in Turkey.

The liver constitutes approximately 2% of the total body weight. Theoretically, the minimum size of the liver to survive is 0.6% of the total body weight, which is 30% of its own weight. Initially, surgeons tended to leave the liver size at 0.8% of the total body weight (6). In the Ege University practice, the residual volume was over 40% at the beginning. However, with time, they could reduce this percentage to 30% without any further harm to the donor safety.

This article once more emphasized that liver transplantation means teamwork. In fact, liver transplantation centers should employ a multidisciplinary approach. Patients should be evaluated by a liver transplantation team. There should be an intensive care unit, liver transplantation service, and special liver transplant outpatient clinic. In addition, a clinical and experimental study environment should be established. The Turkish Association for the Study of Liver established a liver transplantation study group in June 2018.

This experienced center has trained many general surgeons, gastroenterologists, anesthesiologists, pathologists, and pediatric gastroenterologists working in the field of liver transplantation. They are currently working in different centers across Turkey.

In conclusion, liver transplantation has shown important advances in the past 2 decades in Turkey. In particular, the experience with LDLT has significantly increased. The LDLT and DDLT have been successfully performed in many centers in Turkey. In recent years, Turkey has become an important country in Europe in terms of LDLT. However, there is a need to develop health policies to increase organ donation.

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