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Transplantation legislations in Turkey.

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Organ transplantation became the preferred procedure for treatment of end stage organ failure. The success of any transplantation organization depends on legal, ethical, medical, social, psychological, economical and religious factors. An effective system should be created with regard to these issues; especially legislation. If transplantation legislation is lacking then it is better to stop or abandon transplantation in this country.

In an attempt to start a deceased-donor donation program in Turkey, our group contacted and worked in cooperation with international networks, including the South Eastern Organ Procurement Foundation (Richmond, VA, USA) and the Eurotransplant Foundation (Leiden, The Netherlands). Thus, we were able to perform the first deceased-donor kidney transplantation on October 10, 1978, using an organ supplied by the Eurotransplant Foundation.

During the early periods of transplantation, the lack of legislation in governing organ donation was the main hurdle in Turkey. To overcome this problem, we made attempts to convince members of Parliament, officials of the Department of Religious Affairs and the Ministry of Health that transplantation was a life saving procedure and should be supported. Our efforts were successful and we structured a law on organ procurement, preservation and transplantation, which was used as a model by many countries. On June 3, 1979 the law was enacted by Turkish Government, and later that month on June 27, we performed the first local deceased-donor kidney transplantation. We worked with the Turkish public to provide education about the benefits of and social responsibilities involved in organ donation. In addition, we founded The Turkish Organ Transplantation and Burn Treatment Foundation in 1980 and printed standardized organ donation cards. On January 21, 1982 additional articles were added to Law 2238, with the enacted Law 2594, which allowed for deceased donation without consent from next-of-kin. In 2001, the Ministry of Health established the National Coordination Center as an umbrella organization to promote transplantation activities, especially for deceased donor organ procurement. This system increased deceased organ procurement from 0.9 pmp to 7 pmp in 18 years.

Until now, we have performed 3007 kidney and since 1988, 629 liver transplants. In over 40 years of solid organ transplantation history in Turkey, 38477 kidney transplants (8278 deceased, 30199 living); 14185 livers (4187 deceased, 9998 living); 1048 hearts; and 195 pancreas transplants have been performed nationwide in 82 different centers.

Transplantation activities are accelerating day by day throughout the country, but deceased donors are still far below the desired rates. Efforts to increase awareness continue through the media, schools, and many public and private institutions. Improvements in legislation, education and coordination are key factors for increasing the quality and the quantity of transplantation activities in Turkey.

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Decreasing risks of kidney transplantation using high Kidney Donor Profile Index kidneys: A national cohort study.

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Background: The Kidney Donor Profile Index (KDPI) is a numerical score from 0-100% that represents relative donor kidney quality, with higher scores representing lower quality organs. Kidneys with a high KDPI ($\geq 85\%$) are often discarded due to an increased risk of post-transplant mortality and graft loss. However, we hypothesized that some recipients might tolerate high KDPI kidneys well, and are therefore best suited to receive these grafts.

Methods: Using national registry data from SRTR between 2006-2017, we compared 10,361 kidney transplant recipients of high KDPI ($\geq 85\%$) kidneys to 120,983 recipients of low KDPI ($< 85\%$) kidneys. We identified recipient factors that amplified (or attenuated) the impact of high KDPI on mortality and graft loss using interaction analysis, classifying recipients without amplifying factors and with attenuating factors as preferred recipients. We compared mortality and graft loss with high KDPI versus low KDPI kidneys in preferred and non-preferred recipients using Cox regression.

Results: Preferred recipients of high KDPI kidneys were determined to be recipients of a kidney with ≥ 24 hours of cold ischemic time, who were ≥ 60 years old, non-white, with diabetes or who had diabetes as the cause of their ESRD, and without cystic disease as the cause of their ESRD. Preferred recipients had a 39% reduced mortality risk (hazard ratio [HR]: 0.520.610.72, $p < 0.001$) with high KDPI kidneys compared to non-preferred recipients. This translated to a 23% increased mortality risk (HR: 1.061.231.43, $p = 0.008$) with a high KDPI kidney versus a low KDPI kidney in preferred recipients, in comparison to a 100% increased mortality risk (HR: 1.902.002.11, $p < 0.001$) for non-preferred recipients (Figure). Similarly, preferred recipients had a 28% reduced risk of graft loss (HR: 0.610.720.85, $p < 0.001$) with a high KDPI kidney compared to non-preferred recipients. This translated to a 43% increased risk of graft loss (HR: 1.211.431.70, $p < 0.001$) with a high KDPI kidney versus a low KDPI kidney in preferred recipients, in comparison to a 96% increased risk of graft loss (HR: 1.881.962.04, $p < 0.001$) for non-preferred recipients (Figure).

Conclusions: Preferred recipients had a significantly reduced risk of mortality and graft loss with high KDPI kidneys compared to non-preferred recipients. The risks of kidney transplantation with high KDPI kidneys can be decreased, but not eliminated, by appropriate recipient selection. NIH F32DK113719 (Jackson), K01DK101677 (Massie), K24DK101828 (Segev), and K23DK115908 (Garonzik-Wang). Doris Duke Charitable Foundation Clinician Scientist Development Program (Garonzik-Wang).

