LETTERS TO THE EDITOR

First renal transplant chain involving an altruistic donor performed in Spain

Primera cadena de trasplantes a partir de un donante altruista realizada en España

Dear Editor:

In recent years, we have witnessed a progressive decrease in the number of cadaveric donors. This fact, together with the rapid development of laparoscopic surgery in Urology, has enhanced the living donor in kidney transplantation programs now accounting for 12% of all transplants performed in Spain.

Overall, the grafts from living donors have an average life longer than the cadaveric ones; however, up to 30% of the potential pairs have ABO (system of classifying blood groups by a or b antibody) incompatibility or positive cross match, which substantially decreases the potential beneficiaries. In these cases, the alternative is a long waiting list for cadaveric donors, or desensitization protocols with plasmapheresis/immunoabsorption and intravenous immunoglobulins. Both alternatives have shown an overall graft survival lower than those from negative cross match pairs.

In this scenario, the possibility of getting a kidney from a negative cross match living donor from a transplant chain program initiated by an altruistic donor, also called ‘Good Samaritan’, represents a very attractive option for these patients. The first chain of transplants was performed in the U.S. in 2006, and it currently has wide acceptance in countries such as Korea and Holland. In order to achieve compatibility between the patients, the National Kidney Registry (www.kidneyregistry.org) has the necessary software available to get up to a trillion chance of crossing starting from a small number of pairs entered into the program.

Although the chain principles consider the performance of donations and transplantations non-simultaneously to create a large number of transplants, our chain began and ended on the same day to avoid the risk that any member reconsidered the donation and abandoned it. Thus, jointly between the Fundació Puigvert (FP) and the Hospital Virgen de las Nieves (HVN), the first chain of transplants performed in Spain was carried out on April 6, 2011. The procedure began at 9 AM with the living donor nephrectomies performed simultaneously with the altruistic donor and the other two donors. The kidney from the altruistic donor was transplanted into ‘B’ immediately after the extraction in the FP. The kidney of ‘A’ was sent to HVN in a commercial

Figure 1 Renal transplant chain involving an altruistic donor.


2173-5786/ $ - see front matter © 2011 AEU. Published by Elsevier España, S.L. All rights reserved.
flight. The trip lasted 2.5 h and the kidney was transplanted into ‘D’ after 4 h of cold ischemia at the HVN. During this time, the kidney of ‘C’ remained in cold ischemia until the plane that landed in Granada came back to Barcelona and was transplanted in ‘E’ with 5 h and 15 min of cold ischemia. At 7:30 PM, the transplant was completed and the chain was closed (Fig. 1).

The donors of both hospitals were discharged at 3 and 4 days, respectively. Two of the three recipients were discharged on the seventh day with a creatinine of 1.2 and 1.4 mg/dl. The third recipient showed a perirenal hematoma which required surgical revision, being discharged on the tenth day with creatinine of 1.2 mg/dl. The experience with the first chain of transplants performed in Spain has been very positive, considering that three receptors have been transplanted thanks to an altruistic donor. This new pathway in renal transplantation opens the door to a large number of patients who could potentially benefit from this possibility.

References


A. Breda a, O. Rodríguez Faba a, E. Espejo b, J.M. Cozar b, H. Villavicencio a

a Servicio de Urología, Universidad Autónoma de Barcelona, Fundación Puigvert, Barcelona, Spain
b Servicio de Urología, Hospital Virgen de las Nieves, Universidad de Granada, Granada, Spain

∗Corresponding author.
E-mail address: orodriguez@fundacio-puigvert.es (O. Rodríguez Faba).

doi:10.1016/j.acuroe.2012.05.011

Hexavalent chromium and bladder cancer risk

Como hexavalente y riesgo de cáncer de vejiga

Dear Editor:

We have recently completed a study on the follow-up of patients with superficial bladder carcinoma. This controlled prospective study took place at the General Hospital of Thebes (Viotia, Greece) from April 2006 to February 2009. More precisely, the study group included a total of 45 patients who had a recent history of recurrent superficial bladder cancer and subsequent TUR-BTs. Upon the completion of the study we realized that the 42% recurrence rate observed in our sample is unusually high, given that it actually represents the recurrences in the time between two cystoscopies. The reasons explaining this finding are practically unknown. It could be hypothesized that it may be due to the relatively large number of high risk bladder cancer patients (no. 7). Another reason explaining the high recurrence rate could be the fact that all the patients are from the cities of Thiva, Inofyta and Schimatari, (Thiva-Tanagra-Malakasa basin, Eastern Sterea Ellada, Greece), which support many industrial activities. According to our investigations, all the subjects with a confirmed bladder cancer recurrence consume tap water. Concentrations of chromium (up to 80 mg/L Cr(VI)) have recently been found in the urban water supply of Inofyta city. Cr(VI) concentrations ranging from 5 to 33 mg/L were found in groundwater that is used for Thiva’s water supply. Arsenic concentrations up to 34 mg/L along with Cr(VI) levels up to 40 mg/L were detected in Schimatari’s water supply. 1

Hexavalent chromium is a potent carcinogen and previous studies have shown that it causes lung cancer in humans in certain occupational settings as a result of inhalation exposure. 2 So far as we know, carcinogen exposure via consumption of drinking water has been investigated previously and is potentially of importance. In fact, the use of drinking water contaminated by nitrate, hexavalent chromium, and other heavy metals from industrial discharges has been associated with carcinogenesis. 2,3 and a large American study has found that drinking more fluids is associated with a significantly decreased rate of bladder cancer. 4 Interestingly, a more focused experimental study demonstrated that hexavalent chromium can cause bladder cancer in animals when administered orally. 5 The specific mechanism remains unclear; however, it might be associated to tap water concentrations of heavy metals. This urogenous-contact hypothesis could play a role in Greece since the warm climate favors dehydration which itself increases the urine concentration.