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MARS AND VENUS: SHORT-AND LONG-TERM SUCCESS OF MALE TO FEMALE KIDNEY TRANSPLANTS

Proteins on Male Cells May Elicit Immune Response in Female Kidney Transplant Recipients

Washington, DC (July 29, 2009) — Female recipients of kidneys from deceased male donors demonstrate an increased risk of allograft failure in the first year after transplant, but show no increased risk after ten years, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN). The study authors note that proteins on male donor cells may affect the short term success of kidney transplants in women.

Joseph Kim, MD (Toronto General Hospital and the University of Toronto, Canada) and John Gill, MD (St. Paul's Hospital and the University of British Columbia, Canada) studied information on all adult recipients of deceased-donor kidney transplants from 1990 through 2004 in the United States Renal Data System (a system that collects, analyzes, and distributes information about end-stage renal disease in the United States). 117,877 patients were followed for at least one year post transplant. Of these, 16,135 experienced kidney graft failure and 6,878 died within the year. 97,906 patients had functioning grafts at 1-year and were followed for up to 10 years post-transplant. Of these, 35,084 graft failures and 22,566 deaths occurred.

The results of this analysis indicate that H-Y antigens, derived from the male chromosome and not found in women, may elicit an immune response in women who receive transplants from deceased male donors. Compared with all other sex combinations, female recipients of male donor kidneys had a 12% increased risk for transplant failure at one year but no excess risk at 10 years. Women who received male donor kidneys also exhibited a similar increased risk of death in the first year, but no increased risk at 10 years.

Dr. Kim noted that there are numerous factors that contribute to the success of kidney transplants and that transplanting male kidneys into female recipients often produces excellent outcomes. According to the authors, many important factors should be taken into account when considering transplant options, and "future research should examine the potential mechanisms underlying the H-Y effect in order to better

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understand the specific role of minor histocompatibility antigens in determining kidney allograft outcomes."

The authors report no financial disclosures.

The article, entitled "H-Y Incompatibility Predicts Short-Term Outcomes for Kidney Transplant Recipients," is available online at http://jasn.asnjournals.org/, doi 10.1681/ASN.2008101110.

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