

THE European Multicentre Trial on Kidney Preservation: Results of a Prospective Randomised Clinical Study Comparing Post-Transplant Outcome After Hypothermic Machine Perfusion Versus Simple Cold Storage in Kidney Transplantation

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Introduction: Static cold storage (CS) has been the preferred method for preservation of deceased donor kidney grafts in the past decades. However, due to an increase in marginal and non-heart-beating donors, renewed interest in hypothermic machine perfusion (HMP) can be seen. Although retrospective studies indicate that HMP may lead to superior initial graft function, reliable prospective data are lacking. This investigator-driven study is the first sufficiently powered prospectively randomised clinical trial comparing HMP with CS.

Method: 338 Consecutive deceased donors >15 years were prospectively included in The Netherlands, Belgium and North Rhine Westphalia (Germany) from 1 November 2005 through 1 November 2006. Randomisation took place in the donor, assigning one kidney to HMP and the contralateral organ to CS. Apart from the preservation method, all existing protocols concerning procedures, logistics and organ allocation were left unchanged. Recipient centres within the trial region were blinded for the preservation method at organ offer.

Primary endpoint is delayed graft function (DGF). Secondary endpoints are: Serum creatinine and creatinine clearance at day 1-14 and at 1, 3 and 12 months, and 3, 6, and 12 month graft survival.

Results: To date, all follow-up data have been collected up to 3 months post-transplant. Data analysis will be complete before the 2007 ESOT Congress. The report will present these data and focus on the critical question whether HMP is superior to CS preservation for donor kidneys which are procured and exchanged in Eurotransplant, and whether any (sub)categories of donors in combination with recipient characteristics will benefit from either preservation method. In addition, this study will allow a multivariate analysis evaluating organ viability and current relevant risk factors for function and survival in kidney transplantation.

