

Response to ‘Past, Present, and Future of Dynamic Kidney and Liver Preservation and Resuscitation’

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To the Editor,

We are writing in response to the article written by Jochmans *et al* (1). The article is comprehensive review on the status of preservation and resuscitation techniques in kidney and liver transplantation. It highlights the need for dynamic techniques of preservation for higher risk kidney and liver grafts, detailing hypothermic and normothermic perfusion technologies. The review also documents a list of registered clinical trials of these novel techniques in kidney transplantation. Supplementary information (S1) also lists the planned or ongoing trials that are unregistered. The authors state that currently, there are no registered ongoing RCTs comparing preimplantation normothermic machine perfusion with static cold storage.

We are currently conducting a multicentre randomised controlled trial of *ex-vivo* normothermic perfusion versus static cold storage in donation after circulatory death renal transplantation which is listed in the unregistered clinical trials supplementary information table 1. However, since the inscription of this review, the trial has opened and is registered (ISRCTN15821205). We believe it is important to highlight this and update the readers as it is the only trial of its kind in renal transplantation at the time of writing. The trial is led by the University of Cambridge and includes three other UK transplant centres, Newcastle, Guy's Hospital and Edinburgh. The trial will recruit 400 patients and be completed in February 2020.

In addition, the review also comments on the ability to evaluate kidney function during normothermic perfusion and refers to our previous work in this area. We formulated a quality assessment score using a series of declined human kidneys based on the macroscopic appearance, level of renal blood flow and urine output during 60 minutes of normothermic perfusion (2). The authors comment that 'proof of concept of transplanting kidneys that are

discarded and subsequently resuscitated by preimplantation normothermic perfusion has not yet been reported'. We have just had a case report accepted for publication in Am J Transplantation documenting the transplantation of a pair of discarded kidneys after assessment and resuscitation using normothermic perfusion. Again, we believe that it is important to update this review article.

References

- 1: Jochmans I, Akhtar MZ, Nasralla D, Kocabayoglu P, Boffa C, Kaisar M, Brat A, O'Callaghan J, Pengel LH, Knight S, Ploeg R. Past, present and future of dynamic kidney and liver preservation and resuscitation. Am J Transplant. 2016 Mar 6.
- 2: Hosgood SA, Barlow AD, Hunter JP, Nicholson ML. Ex vivo normothermic perfusion for quality assessment of marginal donor kidney transplants. Br J Surg. 2015 Oct; 102(11):1433-40.