Hypothermic Oxygenated Perfusion (HOPE) - A simple and effective method to modulate the immune response in kidney transplantation

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Figure S1. Experimental design.

Four groups of kidneys were included in this experimental study (A). Allogeneic kidneys were either transplanted without any treatment of the recipients or following one-hour HOPE perfusion (B&C). Such kidneys were compared to the standard application of Tacrolimus in recipients. Syngeneic kidneys from brown Norway rats were transplanted into brown Norway recipients and served as controls. Follow-up was 10 days. During this time several blood and plasma samples were obtained and assessed (D). Each group included 6 animals per time point, and 6-9 animals for the assessment of animal survival (E). Animals were randomly assigned to the experimental groups.

Figure S1. Experimental design.

A Experimental groups

B Kidney grafts during preservation and at reperfusion (KT)

C Kidney grafts at procurement for analysis

D Endpoints

E Number of animals per group and time point (randomly assigned)

Group (n) /Time points	2 days	4 days	6 days	8 days	10 days
I. Syngeneic control	6	6	6	6	7
II. Untreated	6	6	6	6	7
III. TAC	6	6	6	6	9
IV. HOPE	6	6	6	6	7

Experiments were terminated at each time point.

Figure S2. Markers of reperfusion injury after KT.

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HOPE treatment was protective against up-regulation of several acute phase molecules in the setting of our allogeneic kidney transplant model. For example, the expression of IL-6, ENO, and TNF-alpha was significantly less compared to the cold storage group and remained comparable to the TAC group, for which recipients received additional Tacrolimus every day after kidney transplantation.

Figure S3. Experimental design and ex vivo rat kidney perfusion and transplantation (DCD model).

Figure S4. T-cell activation after DCD KT.

A CD3 positive cells in kidney tissue

B CD4 positive cells in kidney tissue

C CD8 positive cells in kidney tissue