Background: Hypothermic Machine Perfusion (HMP) of kidneys preserves organ integrity better and longer than Simple Cold Storage (SCS). Interest in liver HMP is increasing but there are no data on the capacity of HMP to preserve the morphology of human livers for prolonged periods. We developed an HMP device for human livers with dual arterial/portal perfusion and separate pressure/flow controls.

Methods: After ethical and Belgian Liver Intensive Committee (BLIC) approval, 6 human livers considered potentially transplantable but discarded due to mild changes, recipient contra-indication and eventually failed ET-reallocation were machine-perfused during 24hrs at 4-6°C using preservation solution KPS-1™. Metabolic/biochemical/hemodynamics parameters and standard/electron microscopy were assessed.

Results: Group 1 (controls) = Livers preserved in UW solution for 24hrs. Group 2 (HMP) were perfused with a new rinse solution for flushing liver grafts before reperfusion. This study shows -for the first time- that HMP is capable to preserve the morphology and cellular integrity of human livers for prolonged periods (24hrs). Randomized control trials of transplantation of machine-perfused livers are planned to determine the added value of HMP compared to SCS to preserve human livers.

Conclusion: The effectiveness of preservation with HMP in brain death donors, both ideal and marginal, appear controversial; more data need to be collected in selected donors.

RO-075  
PRESERVATION OF NORMAL MORPHOLOGY OF HUMAN LIVERS AFTER 24 HOURS OF HYPOTHERMIC MACHINE PERFUSION: A FIRST-IN-MAN STUDY  
D. Morbidaiu 1, Q. Liu 1, L. Libbrecht 1, R. De Vos 1, K. Vekemans 1, O. Detty 3, J. van Pelt 1, T. Roskams 1, J. Pienevel 1,1, Abdominal Transplant Surgery, University Hospitals, Leuven, Belgium; 2Pathology, University Hospital, Ghent, Belgium; 3Surgery and Transplantation, University Hospital, Liège, Belgium.

Background: Hypothermic Machine Perfusion (HMP) of kidneys preserves organ integrity better and longer than Simple Cold Storage (SCS). Interests in liver HMP is increasing but there are no data on the capacity of HMP to preserve the morphology of human livers for prolonged periods. We developed an HMP device for human livers with dual arterial/portal perfusion and separate pressure/flow controls.

Methods: After ethical and Belgian Liver Intensive Committee (BLIC) approval, 6 human livers considered potentially transplantable but discarded due to mild changes, recipient contra-indication and eventually failed ET-reallocation were machine-perfused during 24hrs at 4-6°C using preservation solution KPS-1™. Metabolic/biochemical/hemodynamics parameters and standard/electron microscopy were assessed.

Results: Group 1 (controls) = Livers preserved in UW solution for 24hrs. Group 2 (HMP) were perfused with a new rinse solution for flushing liver grafts before reperfusion. This study shows -for the first time- that HMP is capable to preserve the morphology and cellular integrity of human livers for prolonged periods (24hrs). Randomized control trials of transplantation of machine-perfused livers are planned to determine the added value of HMP compared to SCS to preserve human livers.

Conclusion: The effectiveness of preservation with HMP in brain death donors, both ideal and marginal, appear controversial; more data need to be collected in selected donors.