

Pump-Priming Grant Report

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Title :

Pancreas Perfusion Programme :improving preservation methods in donor pancreases

Objective

Pancreatic transplantation remains the most effective current treatment for appropriately selected diabetic patients. The sole method for pancreatic preservation to date is cold storage (CS), however, improved methods such as machine perfusion (MP) with oxygenation could challenge this.

Method

Porcine pancreases were retrieved from the slaughterhouse after 30 minutes of warm ischaemia and were flushed. After 3 hours of cold ischaemia pancreases were preserved by CS or perfused by HMP (Wave machine; Waters Medical Systems) with and without oxygen for 6 hours followed by 1 hour of NMP

Results

Oxygenated HMP appears to be beneficial for pancreas preservation compared to classic SCS

Outputs (publications/presentations)

PRESENTATIONS (4)

1-NDS away day 2020

Ex vivo normothermic perfusion, a novel method to assess pancreases after preservation

Julien Branchereau and, Etohan Ogbemudia, Kaithlyn Rozenberg, Fungai Dengu, Gabriella Hakim, Flavia Neri, Georg Ebeling, Letizia Lo Faro, James Hunter, Rutger Ploeg and Peter Friend

2-British Transplantation Society Congress Live 2021 24th & 25th February

Development of *ex vivo* normothermic perfusion as an innovative method to assess pancreases after preservation

Miss Ann Ogbemudia, Miss Gabriella Hakim, Mr Fungai Dengu, Mr Faysal El-Gilani, Dr John Mulvey, Miss Kaithlyn Rozenberg, Dr Thomas Prudhomme, Dr Fenna Van de Leemkolk, Dr Letizia Lo Faro, Mr Joshua Olive, Mr James Hunter, Professor Paul Johnson, Professor Peter Friend, Professor Rutger Ploeg, Dr Julien Branchereau

3-Congrès de l'Association Française d'Urologie 2020

Modele pré-clinique de perfusion normothermique ex-situ de transplant pancréatiques

Gabriella Hakim, Etohan Ogbemudia, Kaithlyn Rozenber, Fungai Dengu, Flavia Neri, Azita Mellati, Pommélien Meertens, Fean van_de_Leemkolk, Georg Ebeling, Letizia Lo Faro, James Hunter, Rutger Ploeg, Peter Friend, J Branchereau

4-Congrès de la Société Francophone de Transplantation 2020 (Award as a best presentation)

Development of ex vivo normothermic machine perfusion as an innovative method to assess pancreases after preservation

Ann E. Ogbemudia, Gabriella Hakim, James Hunter, Fungai Dengu, Kaithlyn Rozenberg,, Thomas Prudhomme, Paul Johnson, Faysal El-Gliani, Joshua Oliver, Letizia Lo Faro, John Mulvey, Peter Friend, Rutger Ploeg, Julien Branchereau

PUBLICATIONS (3)

1-Ischemia-Reperfusion Injuries Assessment during Pancreas Preservation

Prudhomme T, Mulvey JF, Young LAJ, Mesnard B, Lo Faro ML, Ogbemudia AE, Dengu F, Friend PJ, Ploeg R, Hunter JP, Branchereau J
Int J Mol Sci. 2021 May 13;22(10):5172. doi: 10.3390

2-Pancreas preservation: clinical practice and future developments.

Branchereau J, Hunter J, Friend P, Ploeg R.
Curr Opin Organ Transplant. 2020 Aug;25(4):329-335. doi: 10.1097

3-Development of ex vivo normothermic machine perfusion as an innovative method to assess pancreases after preservation

Ann E. Ogbemudia, Gabriella Hakim, James Hunter, Fungai Dengu, Kaithlyn Rozenberg,, Thomas Prudhomme, Paul Johnson, Faysal El-Gliani, Joshua Oliver, Letizia Lo Faro, John Mulvey, Peter Friend, Rutger Ploeg, Julien Branchereau
Transplant International (in press)

Next Steps (what is it leading to)

- CLINICAL TRIAL