available in all cases.

Results:

Group	N (%)	HIV	HCV **	HBsAg	HBcAb**
CDC High Risk*	561 (11.5%)	5 (0.9%)	77 (13.7%)	5 (0.9%)	66 (12%)
Non-CDC High Risk	4316 (88.5%)	16 (0.3%)	171 (3.5%)	17 (0.4%)	243 (5.6%)
TOTAL	4877	21 (0.4%)	248 (5.0%)	22 (0.5%)	309 (6.3%)

*CDC High Risk was determined by screening questions only, other CDC recommended screening including physical assessment findings, hemodilution etc. were not included in this analysis.

** p< .0001

21/4877 (0.4%) potential donors tested HIV-1/2 antibody positive. The incidence in the CDC-HR group was 5/561 (0.9%) vs.16/4316 (0.3%) in the Non-CDC HR group (p= 0.15).

The incidence of HCV+ tests in the CDC-HR group was 77/561 (13.7%) as compared to 171/4316 (3.5%) in the Non-CDC-HR group (p<.0001). The incidence of HBsAg + tests in the CDC-HR was 0.9% vs. 0.4% in the Non-CDC HR group (p=.18). The incidence of HB_sAb+ tests in the CDC HR group was 66/561 (12%) vs. 243/4316 (5.6%) in the Non-CDC HR group (P<.0001).

Summary and Conclusions: There was a trend for higher incidence of positive serology for all tests in the CDC HR group but this was significant only for HCV and HB_cAb. The majority of positive cases for each of the tests were in the non High Risk group. These data need further confirmation and should be considered when contemplating routine prospective NAT testing for potential organ donors. Considerations of logistics, cost and potential inadvertent loss of donors and organs associated with prospective NAT testing need to be weighed against the current low incidence of disease transmission.

71 METHYLPREDNISOLONE INFUSION EFFECTIVELY DECREASES PLASMA INTERLEUKIN-6 (IL-6) AT EXPLANTATION IN ORGAN DONORS AFTER BRAIN DEATH

M. Mathur[1], M. Stadtler[3], S. Collazo[3], T. Mone[3], R. Hawthorne[3], C. Chinchilla[4], V. Pravica[4,5], F. Petersen[2], K. Bahjri[2] and I. Hutchinson[4,5].

Loma Linda University Children's Hospital[1] and Health Research Consulting Group[2], Loma Linda, CA; OneLegacy[3], National Institute of Transplantation[4] and University of Southern California[5], Los Angeles, CA, USA.

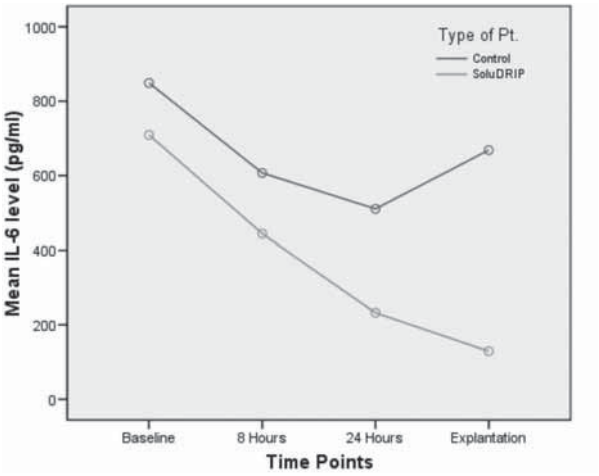
Background: IL-6 is a key pro-inflammatory cytokine upregulated after Brain Death (BD) in humans. It leads to adhesion molecule activation and leukocyte invasion in all organs. Pre-explantation organ dysfunction is a direct consequence of inflammation, and renders many organs unsuitable for transplantation. Functionally, IL-6 elevation correlates with deteriorating donor cardiac function in humans and its upregulation in kidney and liver donors worsens ischemia-reperfusion injury in recipients. Corticosteroids modulate gene expression of pro-inflammatory cytokines (including IL-6) thereby ameliorating the inflammatory cascade after BD. Reduced inflammation may help to improve the number of transplantable organs procured from each donor. (The current average is 3.6 organs out of a possible 8 in the United States). Though a bolus dose of Methylprednisolone (Solumedrol) is a component of hormonal resuscitation in hemodynamically unstable BD donors, its plasma half-life is <3 hours and independent of the dose given.

Aim: To determine whether Solumedrol given as a continuous infusion suppresses inflammation after BD better than usual care, using IL-6 level as a marker for the degree of inflammation.

Methods: Clinical data and serial blood samples were prospectively collected from 11 BD subjects (ages 15-65 years) after obtaining research consent. All patients received a 30mg/kg Solumedrol bolus as a part of usual hormonal resuscitation. Five randomly selected patients also received Solumedrol infusion (100mg/hr) until explantation (experimental SoluDRIP group). while the other 6 served as controls. APACHE II scores (range 12-26) were similar between groups. Plasma IL-6 at baseline; 8, 16 and 24 hours after the Solumedrol bolus and at explantation was quantified using IL-6 ELISA (Biogen®) with a lower limit of detection at 4 pg/ml. IL-6 levels were compared between groups at each time point using student t-test with alpha at .05.

Plasma IL-6 (pg/ml) and OTPD	**SoluDRIP**		**Control**	
Time-points	Mean	SD	Mean	SD
Baseline	709	755	849	587
8 Hours	444	697	607	672
24 Hours	232	378	510	709
Explantation* (p=.02)	129	120	668	422
Actual OTPD	4.0	2.1	3.00	2.1

Results: All patients had elevated IL-6 at baseline. (Mean ± SD shown in the table, only means are graphed for clarity). Despite the small sample size, reduction in IL-6 in the Solumedrol infusion group at explantation was significant (p=.02). Though IL-6 level at other time-points was statistically similar, the SD stabilized in SoluDRIP subjects but not controls. OTPD trend appeared favorable, although unconfirmed in this sample.



Conclusions: Continuous Methylprednisolone infusion reduces plasma IL-6 at explantation significantly compared to current donor management. Suppression of inflammation by Methylprednisolone infusion should be further investigated to determine whether clinical outcomes such as organs transplanted per donor and recipient graft survival can also be favorably impacted.

CONCURRENT ORAL SESSION 9: XENOTRANSPLANTATION – COAGULATION/ISLETS

72 THE INNATE IMMUNE RESPONSE AND ACTIVATION OF COAGULATION IN α1,3-GALACTOSYLTRANSFERASE GENE-KNOCKOUT XENOGRAFT RECIPIENTS

M. Ezzelarab[1], C.C. Lin[1,2,3], H. Hara[1], D. Ayares[4], A. Dorling[2], D.K.C. Cooper[1]

[1]*Thomas E. Starzl Transplantation Institute, University of Pittsburgh, PA* [2]*Department of Immunology, Imperial College London, Hammersmith Hospital, London, UK* [3]*Department of Surgery, Chang Gung Memorial Hospital, Kaoksiung, Taiwan* [4]*Revivicor Inc., Blackburg, VA*

Background: Acute humoral xenograft rejection (AHXR). frequently associated with disseminated intravascular coagulation (DIC). remains a major challenge in pig-to-primate xenotransplantation (Tx). The precise factors initiating graft intravascular thrombosis, particularly when the predominant pathology is thrombotic microangiopathy (TM). remain to be elucidated. Upregulation of donor tissue factor (TF) in the xenograft has been implicated in these processes but the importance of recipient TF has not been addressed.

Methods: Organs and aortic patches from α1,3-galactosyltransferase gene-knockout (GTKO) pigs were transplanted into baboons (n=18). with or without immunosuppression. Immunohistochemistry was used to identify IgM, IgG, complement deposition, cellular infiltration, and primate TF expression in the graft. Baboon TF mRNA in the graft was measured by qPCR. Baboon monocytes and platelets were isolated from peripheral blood before and after Tx, and analyzed for TF activity and by flow cytometry. Functional TF activity was determined by clotting assays after mixing monocytes and platelets with recalcified Factor VII (FVII) -deficient plasma with or without FVII.

Results: In all grafts (with or without immunosuppression). IgM, IgG, and complement deposition was present, with neutrophil and macrophage infiltrates (some cells expressed TF). and intravascular fibrin deposition and platelet aggregation characteristic of TM. Clinical and/or laboratory features of DIC occurred in >50% of organ xenograft recipients. Before Tx, monocytes and platelets did not express TF or display TF-dependent procoagulant activity. After pig aortic patch Tx, circulating recipient platelets (but not monocytes) expressed TF and promoted TF-dependent clotting in recalcified plasma. After pig organ Tx, recipient platelets expressed TF as early as day 3, while monocytes began to express TF later. Furthermore, the organs expressed high