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Abstract# P-203

DISSEMINATED NOCARDIOSIS: A RARE INFECTIOUS COMPLICATION FOLLOWING NON-HEART-BEATING DONOR LIVER TRANSPLANTATION. Santos Jiménez-Galanes, Juan Carlos Meneu Diaz, Baltasar Perez-Saborido, Almudena Moreno Elola-Olaso, Yiliam Fundora Suarez, Manuel Abradelo Usera, Alberto Gimeno Calvo, Enrique Moreno González. *Surgery and Abdominal Organs Transplantation Department, 12 de Octubre University Hospital, Madrid, Spain*

INTRODUCTION

Nocardiosis is an infrequent disease that use to affect patients who present a cellular immunodeficiency, such as transplant recipients on immunosuppression treatment, and although uncommon associate high rates of morbidity and mortality. Disseminated Nocardiasis affecting central nervous system (CNS), abdomen, skin and lungs has been described in bone marrow, lung and kidney transplanted patients. However, to our knowledge, no cases involving these three structures have been reported in liver transplant recipients.

CASE REPORT

Herein, we report a case of CNS, pulmonary and cutaneous nocardiosis in a liver transplant recipient from a non-heart-beating donor due to hepatitis C virus related cirrhosis and hepatocellular carcinoma. At 7th postransplant month, patient was admitted at emergency department presenting bad general health status, fever, edema and subcutaneous nodules in legs. A computed tomography scan was performed revealing multiple nodules disseminated thorough both lungs, abdomen, brain a subcutaneous tissue. By these clinical and radiogical findings needle biopsy was performed over one of the subcutaneous nodules. Cultures of the material tested positive for *Nocardia farcinica.* Thus, we started treatment with intravenous sulfamethoxazole-trimethoprim (SMZ-TMP) shifted after one month to oral. Radiological examination performed after two weeks of treatment showed a 70% reduction on subcutaneous, pulmonary and cerebral lesions. After six months of SMZ-TMP treatment, patient remained free of the symptoms, with involution of the subcutaneous nodules and significant radiological improvement.

CONCLUSION

Among opportunistic infections appearing in liver transplant recipients, *Nocardia* spp. should have special consideration according to the success in early treated patients and bad prognosis in cases of delayed diagnose.

Abstract# P-204

POSSIBLE ERRORS IN HBC AND HCV TESTING DUE TO FLUID IMBALANCE IN DECEASED POTENTIAL LIVER DONORS. J. Czerwinski[1,2], A. Pszenny[1,2], M. Laba[2], K. Ostrowski[3], M. Pacholczyk[3], D. Wasiak[2], M. Kosieradzki[3], A. Chmura[3], P. Malkowski[2]. *[1]Poltransplant, Warsaw, Poland; [2]Dep. of Surg. and Transpl. Nursing, Med. Univ. of Warsaw, Warsaw, Poland; [3]Dep. of Gen. and Transpl. Surg., Med. Univ. of Warsaw, Warsaw, Poland*

To avoid viral transmission anti-HIV, anti-HCV, HBsAg and anti-HBc tests are obligatory in the donor. There are limitations to viral determination methods even using new ELISA-tests. Donor management is associated with alterations in homeostasis (anemia, hypernatremia, polyuria, diabetes insipidus).

We suggest that these disturbances may influence testing to provide a percentage of false-negative or false-positive results.

Method In order to explore the potentiality of false-determination of HBV and HCV we designed a study with aims: to assess and compare the incidence of positive and negative anti-HCV, HBsAg and anti-HBc results.

- in the donors with low (0,11–0,36), normal (0,36-0,44) and elevated (0,45–0,56) hematocrit and
- with hypo- (256–279), normal (280–300) and hyperosmolality (301–404).

A correlation was performed (Chi-test, p-value of <0,05).

Results Between 2004 and 2007, 2435 possible donors were referred to Poltransplant. 1967 were effective, 745 became liver donors. Anti-HCV were tested in 2185, HBsAg - in 2200, anti-HBc in 1183 referred donors.

61 (2,8%) donors were positive for anti-HCV. In the group with anemia (hematocrit 0,11-0,35) we observed a significantly lower incidence (2,2%, p=0,04) of negative tests. In the group of donor with hypoosmolarity visibly higher percentage of positive tests were recorded (6,9%), but not significantly.

HBsAg were positive in 15 cases (0,7%). Although in the groups of donors with elevated hematocrit, hypo- and normal osmolality the numbers of HBsAg(+) were distinctly very low (0 or 1), it was not possible estimate the significance due to small groups.

Anti-HBc(+) were obtained in 192 cases (16,2%) and differ between groups with different hematocrit (from 12,9% to 16,7%) and osmolality (from 13,0% to 20,0%), but not significantly.

Conclusions

1. In donors with hematocrit < 0,35 anti-HCV(+) percentage is significantly lower. It is probably related to hemodilution (anemia is an indirect sign of blood dilution) with consequence of false-negative marker determination. PCR-RNA should be considered in this group.
2. Abnormailities in plasma osmolality do not affect viral determination.
3. The influence of homeostasis abnormalities on HBsAg testing requires further investigation.

Abstract# P-205

APPLICATION AND MODIFICATION OF THE DONOR RISK INDEX FOR DONATION AFTER CARDIAC DEATH. Jason Y. Rhee[1], Robin Ruthazer[1], Kevin O'Connor[2], Francis L. Delmonico[2], Richard Luskin[2], Richard B. Freeman[1]. *[1]Transplant Surgery, Tufts Medical Center, Boston, MA, USA; [2]New England Organ Bank, Newton, MA, USA*

Background: The DRI is a useful tool for evaluating donor risk for all deceased liver donors, however it has yet to be specifically applied to DCD. Though donation after cardiac death (DCD) is a covariate of the DRI, a model specific for DCD donors has not been developed. We modified the DRI (Mod-DRI) and examined several other variables to construct a graft failure risk index for DCD livers.

Methods: We used data from 394 consecutive DCD potential donors from the New England Organ Bank (NEOB) registry from January 1, 2000 – July 30, 2008. Patient and graft survival data were obtained from the UNOS registry. The DRI was calculated as described by Feng, et al. Mod-DRI excluded cold ischemia time and placement location. Composite graft failure or death was the endpoint.

Results: 63 DCD livers were identified as having been transplanted with a mean follow-up time of 18.6 months ± 14.6 months. There were 33 (52.4%) donors with a DRI ≥ 2 (Hi-DRI) and 30 (47.6%) patients with a DRI < 2 (Lo-DRI). Seventeen additional variables not included in the DRI were also examined in univariate analysis. Only Hx of of defibrillation (defib) was associated with worse outcome ($p<0.05$ in both log-rank and Wilcoxon rank test) in Kaplan Meier freedom from death or graft failure at 6, 12, and 24 months. 2-variable models (DRI ≥2 + defib and Mod-DRI ≥1.65 + defib) were both significantly associated with the composite end point ($p<0.05$), with Mod-DRI + defib having a slightly higher Model chi-square (7.5 vs 6.0).

Conclusions: In our small cohort, DRI was significantly associated with our composite outcome and inclusion of history of defib improved this association slightly. These results need validation in a larger cohort.

Abstract# P-206

LIVER TRANSPLANTATION FROM CONTROLLED DONATION AFTER CARDIAC DEATH (DCD) DONORS: A SINGLE CENTER EXPERIENCE. Olivier Detry[1], Caroline Veys[1], Benoît Seydel[1], Emmanuel Decker[1], Sévrine Lauwick[2], Pierre Damas[2], François Damas[2], Arnaud De Roover[1], Pierre Honoré[1], Michel Meurisse[1]. *[1]Dpt of Abdominal Transplantation, CHU de Liège, University of Liège, Liège, Belgium; [2]Dpt of Anaesthesiology and Intensive Care Medicine, CHU de Liège, University of Liège, Liège, Belgium*

Background: The aim of this paper is to report the results of controlled donation after cardiac death (DCD) liver transplantation (LT) and to compare them with the results of donation after brain death (DBD) LT . Patients and Methods: From 2003 to 2008, amongst 176 consecutive LT, 19 (10.7%) were DCD-LT that were compared with the 113 first whole DBD-LT, excluding reLT, combined procedures or partial grafts. All DCD procurements were performed in the operative room. Allocation was center-oriented for the DCD-LT, and patient-oriented in the DBD group. The DCD recipients were choosen according to their low surgical risk and their low chances to receive a liver graft in a timely manner according to the patient-oriented allocation rule. DCD recipients were called in hospital before the procurement procedure to limit ischemia. Primary endpoints were graft failure and patient death. Secondary endpoints were postLT length of stay in ICU and total hospitalization, first week peaks of transaminase and total bilirubin, need for blood products during the first week, and the occurrence of biliary complications in the follow-up. Results: DCD donors were older, had higher BMI and longer ICU stay. In

the DCD group, mean donor warm ischemic time was 20 ± 1.5 min (range, 12 – 39 min), with a mean withdrawal phase of 11.7 ± 1.4 min (range, 4 -30 min) and a mean circulatory arrest phase of 8.5 ± 0.6 min (range, 4-15 min). Mean MELD score at LT was 13.3 ± 0.8 and 18.8 ± 1.3 in the DCD and DBD groups, respectively ($p<0.05$). Mean cold ischemia was 304 ± 25 min and 421 ± 15 min in the DCD and DBD groups, respectively ($p<0.05$). Despite higher transaminase peak in the DCD group, recipient and graft survivals were not significantly different at 1 month, 1- and 5 years. DCD graft and patient survivals were 100% at one year, and no DCD graft was lost due to bile duct ischemic cholangiopathy. No DCD patient needed retransplantation. There was no significant difference in the different secondary endpoints.
Conclusion: Controlled DCD liver grafts may provide excellent results if transplanted in low surgical risk recipients with a short cold ischemia and DWIT limited to 40 minutes.

Abstract# P-207

EVALUATION OF FACTORS RELATED TO PRIMARY GRAFT DYSFUNCTION AND NONFUNCTION IN THE LIVER TRANSPLANTATION. Gustavo R. Coelho, Katia F. Vasconcelos, Jose T. Valenca, Jr., Joao B. Vasconcelos, Douglas H. Filho, Tarciso D. Rocha, Cinthya F. Viana, Clovis R. Coelho, Paulo E. Costa, Ivelise R. Brasil, Gleydson C. Borges, Denissa F. Mesquita, Dirk Sherenken, Marcos A. Barros, Jose H. Garcia. *Surgery, Federal University of Ceara, Fortaleza, Ceara, Brazil*

A hepatic insufficiency of the graft after liver transplantation can be defined with Primary Graft Dysfunction (PGD) or Primary Nonfunction (PNF). The Objective of this work is to evaluate the factors related to the donor and the recipient with PGD or PNF in patients submitted to the liver transplant. 176 patients were submitted a liver transplantation in the Walter Cantidio University Hospital of the Federal University of Ceara. The mortality, in 30 days, of the patients with normal enzymatic evolution was of 5%; of the patients with PGD was 19.7% and the patients with PNF was of 100%. The patients who had evolved in the postoperative (PO) with PGD and PNF had had 3,69 times more possibilities of death in 30 days than the patients who had had normal evolution. In this work, we evaluated donors and recipients variables: age, peak serum sodium, aminotransferases, liver steatosis, score MELD, the Cold Ischemia Time of Isquemia Fria (CIT) and the Warm Ischemia Time (WIT). The TIF bigger that 600 minutes, the WIT bigger that 55 minutes and liver steatosis > 30% were factors of risk for the PGD/PNF development. The correlation between the CIT, in minutes, with the evolution aminotransferases of the first one to the seventh postoperative day, it disclosed to significance statistic in 1st PO, 2nd PO, 3rd PO, 4thPO, 6th PO and 7th PO for AST. In relation the ALT had significance statistics in 1st PO, 2nd PO, 3rd PO, 4th PO, 5th PO, 6th PO and 7th PO. The correlation between WIT, in minutes, with the evolution of aminotransaminases the first one to the seventh postoperative day, revealed a significance statistic in 1st PO, 5th PO, 6th PO and 7th PO for AST. In relation the ALT we had significance statistic in the 1st PO. The liver steatosis > 30%, the increase of the CIT and the WIT consequently have correlation with increase of aminotransaminases in postoperative and the bigger risk of DPE/NFE.

Abstract# P-208

SPLIT LIVER TRANSPLANTATION IN PEDIATRICS RECIPIENTS. "12 DE OCTUBRE" UNIVERSITY HOSPITAL EXPERIENCE. MADRID, SPAIN. Yiliam Fundora, Almudena Moreno, Juan C. Meneu, Javier Manzanares, Manuel Abradelo, Pedro Urruzuno, Alberto Gimeno, Baltasar Pérez, Carlos Jiménez, Enrique Medina, Enrique Moreno. *Digestive Surgery and Abdominal Organs Transplants, 12 de Octubre University Hospital, Madrid, Spain*

Aim: To describe the clinical, surgical procedure, postoperative complications and mortality in pediatric recipients of liver grafts from split . Actuarial survival compared with a control group receiving whole graft.
Method: Between April 1991 and September 2006 were a total of 984 liver transplants, using a 4.86% grafts from THBH. A total of 48 recipients THBH, 17 were children.
Results: 64.7% less than a year. Over 50% were transplanted on an urgent basis (n = 10). The most common reason that prompted the transplant was the extrahepatic biliary tract atresia. The grafts were used right liver lobe (n = 1), left (n = 3), extended the right to segment IV (n = 1) and left lateral segments (n = 12). The average time of surgery was 13 + -3 hours, with a cold ischemia time of 552 + -235 minutes. The ecodoppler control showed the presence of thrombosis of the hepatic artery in five cases (29.4%) and three of portal vein thrombosis (17.6%). Three patients had an anastomotic fistula of biliodigestiva. In seven cases it was necessary a surgical reintervention (compartment syndrome, hemoperitoneum, TP early intestinal fistula (n = 2), hematoma and ischemic colitis. Actuarial survival of graft and recipient was 53 and 55% a year. While the control group was 92%, reaching these differences statistically significant ($p = 0.005$). Conclusions: The split liver transplantation can expand the pool of donors. Morbidity and mortality increases in children receiving less than one year to be transplanted on an urgent status.

Abstract# P-209

KINGS COLLEGE SCORE FOR PREDICTING DEATH IN DONATION AFTER CARDIAC DEATH (DCD) LIVER DONORS. Paul J. Marriott, Adam Bartlett, Mark McPhail, Amy Dukoff-Gordon, William Bernal, Nigel Heaton. *Institute of Liver Studies, Kings College Hospital, London, United Kingdom*

Donation after cardiac death (DCD) has the potential to increase the number of potential organs for liver transplantation (LT) with acceptable graft- and patient survival. The aim of this study was to identify donor variables predictive of death within 60 minutes of treatment withdrawal in DCD donors, and to construct a score that can be used to determine likelihood that a potential donor progresses to donation.
All Maastricht category III and IV DCD offers from January 2001 to December 2007 were identified retrospectively. Quantitative and qualitative donor variables were recorded. Patients that died within 60 minutes of withdrawal LST were compared to those that did not using univariate and multivariate analysis to construct a risk score to predict likelihood of death. A validation cohort was used to test the accuracy of the model. A total of 455 DCD donors were offered, of which a retrieval team was sent for 223. 169 (75.8%) patients died within 60 minutes of treatment withdrawal and 90 (53.3%) of these livers were transplanted. Univariate analysis identified age, heart rate, mean arterial pressure, serum calcium, serum sodium, serum creatinine, absence of a cough, gag reflex or spontaneous respirations, past history of alcohol abuse and the presence of inotropic support as predictive of death within 60 minutes of withdrawal of LST. Three variables were significant on multivariate analysis; heart rate ($p=0.005$, OR 0.977), serum creatinine ($p<0.001$, OR 0.976) and the use of inotropes ($p<0.001$, OR= 4.352). These variables were used to construct a risk score whereby a score of 1 was assigned to each positive variable; serum creatinine > 95 µmol/l, heart rate > 66 min^{-1} or the donor was on inotropes. The cohort was divided into three categories; patients at low (score 0), intermediate (score 1) and high (score >1) risk of death within 60 minutes of withdrawal of LST. A total of 41.2%, 71% and 94.8% of patients with a score of 0, 1 or >1 respectively, died within 60 min of withdrawal of LST.
Using three non-invasive variables we have developed a risk score that helps to objectively stratify DCD donors into low-, intermediate-, or high risk of death within 60 minutes of withdrawal of treatment in order to improve donor selection in DCD.

Abstract# P-210

VANISHING BILE DUCT AND STEVEN-JOHNSON SYNDROMES ASSOCIATED WITH AZITHROMYCIN SUCCESSFULLY TREATED BY LIVER TRANSPLANTATION – A CASE REPORT. Mate Skegro[1], Ognjan Deban[1], Irena Hrstic[2], Davor Radic[2], Danica Juricic[2], Bosko Romic[1], Ante Gojevic[1], Tomislav Baotic[1], Igor Petrovic[1]. *[1]Department of Surgery, University of Zagreb Medical School, Zagreb, Croatia; [2]Department of Gastroenterology, University of Zagreb Medical School, Zagreb, Croatia*

Vanishing bile duct syndrome (VBDS) is a rare cholestatic disease characterized by progressive destruction of intrahepatic bile ducts. For the pathogenesis of VBDS a combination of immune, toxic and idiosyncratic mechanisms has been proposed. Many medications have been associated with this syndrome. Immunosupression and ursodeoxycholic acid are the mainstay of the treatment, but biliary cirrhosis often results despite aggressive treatment. Steven-Johnson syndrome (SJS) is an immune-complex mediated hypersensitivity disorder. The etiology may be drug-induced, infectious, malignant or idiopathic. Rarely, VBDS and SJS can co-exist. We present a case of SJS and VBDS associated with the use of azithromycin. After the diagnosis, patient was treated with all therapeutic modalities proposed in the literature. Medical therapy achieved no improvement, he was assigned for liver transplantation, successfully transplanted and fully recovered.
Case Report: A 62-year-old male was referred due to acute hepatic lesion. One