Trabalhos Científicos

Título: Large-for-size Liver Transplantation: A Flowmetry Study In Pigs

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Resumo: Background: Ischemia-reperfusion injury is partly responsible for morbidity in pediatric liver transplantation. Large-for-size liver transplantation has not been fully studied in the pediatric population, and the effects of reperfusion injury may be underestimated. Methods: Thirteen Landrace-Largewhite pigs weighing 23 Kg (17-38 Kg) underwent orthotopic liver transplantation. Two groups according to the size of the donor body: large-for-size (LFS) and control (CTRL). The portal venous flow of the donors and recipients was measured one hour after transplantation. The ratio of recipient portal venous flow to donor portal venous flow (PVFr) was used to establish correlations with ischemia and reperfusion parameters. Liver biopsies were taken one hour after transplantation to assess ischemia and reperfusion and to quantify the gene expression of eNOS, IL-6, BAX and BCL. Results: Recipient weight, total and warm ischemia time were similar between groups. Among hemodynamic and metabolic analyses, pH, central arterio-venous PCO2 difference and AST were statistically worse in the LFS group than control group. The same was found with eNOS (0.41 ± 0.18 vs. 1.56 ± 0.78; p=0.02) and IL-6 (4.66 ± 4.61 vs. 16.21 ± 8.25; p=0.02). In the LFS group, a significant decay in the PVFr was observed in comparison with the control group (0.93±0.08 and 0.52 ± 0.11, respectively; p <0.001). Conclusions: The implantation of a large-for-size graft was responsible for poor hemodynamic status of the recipient one hour after transplantation. Furthermore, the LFS group demonstrated markers of ischemia and reperfusion that were worse when compared with the control group and exhibited a more significant decrease in portal venous flow from donor to recipient.