Comunicação Oral

CO-13 - EFFECT OF SPLENIC ARTERY LIGATION AFTER ALPPS ON VIABILITY, REGENERATION AND LIVER FUNCTION - RESULTS FROM AN EXPERIMENTAL ANIMAL MODEL

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Introduction: Associating Liver Partition and Portal vein ligation for Staged hepatectomy (ALPPS) gained great interest in hepatobiliary surgery. However, the complex mechanisms behind fast liver regeneration are not well known; high morbidity and mortality rates are associated, mostly due to postoperative liver failure.

Methods: Fourty-four Wistar rats were submitted to (ALPPS) with (n=21) and without splenic artery ligation (SAL) (n=23). The control group (laparotomy and pedicle manipulation) included 23 animals. Twelve, 24, 48 and 120h after surgery animals were sacrificed. Blood and liver samples were collected to evaluate liver function, regeneration and viability using flow cytometry, pathological and imunohistochemistry analysis. Nuclear Medicine imaging using ^{99m}Tc-Brida was also performed.

Results: Animals submitted to SAL, 12h after surgery, revealed better hepatic function and less reactive species (ROS) production. At 48 hours, the group submitted to SAL had a higher percentage of cells in apoptosis programmed death and a lower ROS production. The group submitted to SAL, 120h after surgery, demonstrated an increase in cell viability by Ki-67 analysis and a ROS decrease.

Conclusion: This experimental study suggests that modulating portal flow in ALPPS, through SAL, promotes an increase in hepatocellular viability and regeneration without compromising the function, probably related to the reduction of oxidative stress.