

## **Analysis of the interference of general anesthetics in the acute pulmonary injury (ALI) after the induction of sepsis in animal model**

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Parallel to implantation of new surgical techniques, pharmacology constantly aims to the formulation of anesthetics that would give greater effectiveness in its proposed effect. An important point in surgeries is the postoperative condition, when the reduction of complications is due to the making use of drugs that attenuate the installation of inflammatory process, in which soluble mediators and cellular compounds work together in an attempt to hold and eliminate injury causer agents. Reports found in the literature show that usually an abdominal sepsis can induce an ALI due to an increase of the lung's microvascular permeability. The aim of this work was to evaluate the interference of the general anesthetics, propofol and isoflurane in the migration of cells to the peritoneal cavity and lungs, in the experimental induction of abdominal sepsis. For this study mice were used as experimental model, having been divided into one control group and two groups using the propofol and isoflurane anesthetics. After the anesthetics, the animals were submitted to a surgery for the induction of sub-lethal sepsis. Following, the animals were sacrificed and submitted to peritoneal and broncoalveolar washes for further counting of cells in Neubauer camera. The animals' lungs were withdrew and submitted to a histological evaluation of the parenchyma. To verify the significant differences of the treatments the ANOVA test was use and followed by the a posteriori test of Tukey through the SigmaStat v3.10 program. From the results obtained in the peritoneal wash, it was noticed that there was not statistically significant difference between the negative control group and the group that was anesthetized with the propofol ( $p = 0.177$ ). The group in which the isoflurane was used showed highly significant differences when compared to the control group ( $<0.001$ ) and to the group using the propofol ( $<0.011$ ). In relation to the counting of cells obtained from the broncoalveolar wash, it was noticed that in the animals submitted to surgery with the propofol anesthetics migration of cells to the lung happened less when compared to the isoflurane. Concerning the histological evaluation of the lungs, the group that had surgery with propofol presented a greater integrity of the parenchyma, having been noticed few terminal bronchioles with broken epithelium and characteristic of a little injured parenchyma. In relation to the ones that had surgery with isoflurane, it was verified the absence of entire respiratory and terminal bronchioles and wasted parenchyma with rupture of the alveolar epithelium, besides the presence of plates of lymphocytes in some regions of parenchyma. According to these results, we can conclude that in experimental model the use of propofol anesthetics is more efficacious, once it inhibits the excess of migration of leucocytes to the inflammation site, so reducing the possibility of installation of injuries.