HHM-PP-49

TITLE

HEMATOLOGICAL DATA OF NEONATAL PIGLETS SUBMITTED TO DIFFERENT TYPES OF DRYING AT BIRTH

Mariela Aparecida Claro Martines[1], Marina Lopes Mechler-Dreibi[1], Beatriz Belloni[1], Gabriel Yuri Storino[1], Marcela Manduca Ferreira[1], Luís Guilherme de Oliveira[1]

[1] *São Paulo State University (Unesp), School of Agricultural and Veterinarian Sciences, Jaboticabal, São Paulo, Brazil*

CONTENT

Background and objectives: Different types of drying are used on neonatal piglets, such as drying powder, wood shaving and paper towels. Particles smaller than 10?m can reach the lower respiratory tract of pigs and lead to an inflammatory response. The objective of this study was to evaluate the capability of these particles to cause lesions in the respiratory system of piglets, overloading the phagocytic action of alveolar macrophages. Material and methods: Six litters were divided into three equal groups. The first one was dried with commercial drying powder, the second with wood shaving, and the third was the control, dried with paper towel. On the first, fourth and seventh days of life, two piglets from each litter were euthanized, lung and tracheal fragments were collected for histopathological analysis and whole blood samples were collected for hematological evaluation. Also, we conducted a granulometric evaluation of the dry powder and the shaving by laser diffraction. Non-parametric Kruskal-Wallis statistical test was used to verify differences between the medians between the groups ($p<0.05$). Results: All variables of the hemogram were analyzed, and preliminary data showed no statistical difference between groups. The group dried with wood shaving presented a significant difference in the number of lymphocytes on the seventh day (4413.50a ± 526.27) when compared to the first (882.00b ± 643.47) and fourth (2395.00b ± 557.97) days. Regarding the particle diameter, the commercial dry powder showed 10% of particles smaller than 10?m, while the shaving showed 90%, disregarding the larger fragments. Discussion and Conclusion: These microscopic particles may have been phagocytosed by alveolar macrophages, which, by presenting antigens, sensitized lymphocytes to initiate immune response. However, only haematological evaluation is not sufficient to determine if the product can lead to injuries in the respiratory system. Grant # 2018/14964-5 São Paulo Research Foundation (FAPESP).