



S02 0-02 | Marta González Cabrera | Spain | marta.gonzalez133@alu.ulpgc.es

Effect of intramammary administration of lipopolysaccharides in dairy goats at parturition on performance and immune status of goat kids

Marta González-Cabrera¹, Elena Petrosillo^{1,2}, Mario Salomone-Caballero¹, Anastasio Argüello¹, Noemí Castro¹, Lorenzo E. Hernández-Castellano¹

¹*Animal Production and Biotechnology group, Institute of Animal Health and Food Safety, Universidad de Las Palmas de Gran Canaria, 35413 Arucas, Spain*

²*Department of Veterinary Medicine and Animal Sciences, University of Milan, 26900 Lodi, Italy*

This study aimed to evaluate the effect of an intramammary administration (IA) of lipopolysaccharides (LPS) from *Escherichia coli* (O55:B5) to dairy goats at parturition, on performance and immune status of goat kids. Twenty healthy dairy goats were randomly assigned to one of two experimental groups. The treatment (TRT) group (n=10) received an IA of saline solution (2mL) containing 50 µg LPS per gland immediately after parturition. Similarly, the control (CON) group (n=10) received an IA of saline solution (2mL) without LPS. A total of 45 goat kids were immediately removed from the dam after birth and allocated into either the TRT group (n=19) or the CON group (n=26) based on the experimental group of the dam. They were fed colostrum from the dam equivalent to 10% of the birth body weight (BW) divided in two meals at 3h and 12h after birth. After that, animals were fed twice daily with a commercial milk replacer. Individual milk intake (MI) and BW were measured on d0 (birth), d7, d15, d21 and d30 of life. Blood samples were taken on d0, d1, d2, d4, d7, d15, d21 and d30. The data was analyzed using the MIXED procedure from SAS (9.4). The model included IA, time (T) and the interaction between both (IA×T) as fixed effects. A two-way interaction between IA and time was observed for MI ($P_{IA \times T}=0.001$). Thus, both groups showed similar MI during the experimental period, except for d7 as kids from TRT group showed higher MI than the CON group (910±64.0 mL/day and 684±54.8 mL/day, respectively). The IA had no effect on BW. Additionally, the IA did not affect blood IgG concentration of goat kids ($P_{AI}=0.627$). In conclusion, the intramammary administration of LPS to dairy goats at parturition did not affect the performance or immune status of goat kids.

Acknowledgements

This study was funded by ProID2021010035 ACIISI/FEDER, UE.