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Inflammatory cell count in oviduct epithelium in response to injection of different numbers of CCOs by Intrafollicular Transfer of Immature Oocytes – IFIOT

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Resumo

The aim was to evaluate the number of inflammatory cells in different segments of the oviduct epithelium, exposed to different numbers of structures present in the oviduct after IFIOT. Nelore cows (n=45) were submitted to a standard protocol of estrus synchronization (D0: P4 + 2mg EB; D8: 0,5 mg PGF2 α and removal P4 device; D9: 1 mg EB). At 54.5 \pm 2.75h after removal of the P4 device, IFIOT was performed, according to the groups: Control Group (CG; n=15): females submitted to IFIOT with injection of 60 μ L of TCM199 medium, without the presence of CCOs; Group 5 (G5; n=15): females submitted to IFIOT with injection of 5 CCOs in 60 μ L of medium; Group 50 (G50; n=15): females submitted to IFIOT with injection of 50 CCOs in 60 μ L of medium. After IFIOT, all females were inseminated with semen from the same bull. At 64 \pm 2h after IFIOT, slaughter was performed to collect the reproductive tract, and dissection of the oviduct ipsilateral to the ovary that presented ovulation. The oviduct had their interior flushed, and the content evaluated for the presence of structures (non-fertilized oocytes, zona pellucida or embryos-cleaved oocytes). The total number of structures recovered ranged from 0 to 40 per cow. Therefore, regardless of which group the animals belonged to, they were relocated in groups according to the number of structures present in the oviduct: 0 (G0), 1 (G1), 2-9 (G2-9) and 11-40 (G11-40) structures. After flushing, the oviduct was segmented into: proximal isthmus (IP), distal isthmus (ID), proximal ampulla (AP) and distal ampulla (AD), in relation to the uterus-tubal junction. A segment per portion was collected and fixed in 10% formaldehyde to histological processing. For each segment, 5-10 photographs were taken, and inflammatory cells were counted. Data were analyzed using the GraphPad Prism 6.0 program (GraphPad Software, San Diego, CA) using the Kruskal-Wallis test. The number of inflammatory cells from the same oviduct segment exposed to the different numbers of recovered structures, had no difference. However, there was variation in the number of inflammatory cells between segment exposed to the different number of structures. In oviduct with 0 and 11-40 structures, the AP portion (13.6 \pm 7.2 and 10.4 \pm 6.3) had a higher inflammatory cell compared to the ID segment (4.9 \pm 5.5 and 2.9 \pm 1.7), with the IP (6.2 \pm 6.1 and 5.2 \pm 5.4) and AD (11.10 \pm 5.9 and 7.3 \pm 5.2) segments being similar to the others, in the respective groups (G0 and G11-40). As for the oviduct containing 01 structure, the AP (11.9 \pm 5.4) and AD (14.5 \pm 8.6) segments had higher cell number than IP (6.2 \pm 4.2) and ID (3.4 \pm 3.1). The G2-9 group showed no difference between segments. Based on the amount of inflammatory cells, the number of CCO in the oviduct does not generate an increase in the inflammatory response. However, the ampulla was the segment with the highest number of inflammatory cells, especially the proximal portion.

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