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Veterinarni Medicina

Sladek Z, Rysanek D: CD14 expression, apoptosis and necrosis in resident and inflammatory macrophages from virgin bovine mammary gland

Sladek Z, Rysanek D:

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[fulltext]

This paper investigates the association between expression of CD14 and occurrence of apoptosis in blood monocytes, resident ($_{RES}$MAC) and inflammatory macrophages from heifer mammary glands after infusion of PBS ($_{INF}$MAC$_{PBS}$) or LPS ($_{INF}$MAC$_{LPS}$). Resident macrophages ($_{RES}$MAC) were obtained before, and inflammatory macrophages ($_{INF}$MAC$_{PBS}$ and $_{INF}$MAC$_{LPS}$) 24 h after, induction of an inflammatory response using phosphate buffered saline (PBS) and lipopolysaccharide (LPS) in mammary

were analysed for differential counts, CD14 expression, apoptosis and necrosis using flow cytometry. *In vitro* cultivation led to a decrease in the proportion of living cells and to an increase in the proportion of apoptotic and necrotic cells in all macrophages and blood monocytes. In CD14+ macrophages, the proportions of live cells increased and proportions of apoptotic and necrotic cells decreased after *in vitro* cultivation. We observed in CD14− macrophages and monocytes that the proportions of live cells decreased and proportions of apoptotic and necrotic cells increased after *in vitro* cultivation. Our experiments confirm that the expression of CD14 in bovine mammary gland macrophages and blood monocytes is associated with cell viability.

Keywords:

virgin bovine mammary gland; *in vitro;* macrophages; CD14; apoptosis; cytokines; lipopolysaccharide

[fulltext]