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**Effect of tumor necrosis factor  $\alpha$  and interleukin -1 $\beta$  on the secretion of prostaglandin F2 $\alpha$ , prostaglandin E2, endothelin-1 and angiotensin II by the cow oviduct**

The existence of the bioactive form of cytokines as well as their binding sites in the various reproductive tissues have been reported and postulate the interaction with other substances in the control of reproductive functions. Thus, in this study *in vitro* microdialysis system (MDS) was utilized to investigate the effect of interleukin -1 $\beta$ (IL-1  $\beta$ ) and tumor necrosis factor (TNF - $\alpha$ ) on the real time changes of prostaglandin E2 (PGE2) prostaglandinF2 (PGF2 $\alpha$ )

The lumen of 10 cm long portion of the each oviductal segment was implanted with a MDS system and TNF $\alpha$  (100ng) or IL -1 $\alpha$  (10ng) was infused. After extraction levels of PGE2 , PGF2 $\alpha$ , ET-1 and Ang II were measured using double antibody EIAs.

Four hour infusion of TNF $\alpha$  and IL-1  $\beta$  stimulated the secretion of any of the measured substances during the luteal stage.

The results of this study indicated that TNF  $\alpha$  and IL -1  $\beta$  increased the PGE2, PGF2  $\alpha$  ET-1 and Ang II secretion of the bovine oviduct during the peri ovulatory period and the increased local levels of PGE2, PGF2 $\alpha$  ET-1and Ang II in the oviducts may actively participate in the control of oviductal contraction during the peri ovulatory period. Thus, it can be concluded that TNF $\alpha$  and IL-1  $\beta$  may be participating in the cow oviductal contraction by regulating the oviductal PGE2, PGF2 $\alpha$  ET-1 and Ang II secretion and in the trans oviductal transport of the gamete/embryo.