

## **Microscopic changes of ovaries in relation to inflammatory mediators of blood plasma in superovulated rats**

### **ABSTRACT**

This study was aimed to evaluate the microscopic changes that occur within the ovary and to assess the level of inflammatory mediators in blood plasma in rats that are superovulated. Eighteen female 12 weeks old Sprague Dawley rats were used in this study whereby histological sections of ovaries were examined to study the morphology of the ovary and blood analysis was carried out to analyse the inflammatory mediators in the blood plasma. The number of large follicles and healthy follicles were significantly increased ( $P < 0.05$ ) in superovulated rats but the diameter of the follicles were indifferent ( $P > 0.05$ ) when compared to control rats. The levels of Interleukin 8 (IL-8) was up regulated ( $P < 0.05$ ) at 8 hours after human Chorionic Gonadotropin (hCG) treatment but the Prostaglandin E2 (PGE2) and Nerve Growth Factor (NGF) showed insignificant differences ( $P > 0.05$ ) from control rats. It can be concluded from this study that IL-8 indicates increased level of inflammation in superovulated rats. The finding of this study in the increased level of IL-8 in superovulated rats is useful in further studies addressing problems in the superovulation treatment.

**Keyword:** Superovulation; Interleukin 8; Nerve growth factor; Prostaglandin E2; Inflammation