

PGP 9.5- immunoreactivity in the ovary at different stages of oestrous cycle in rats

ABSTRACT

The reproductive process in female mammals is characterized by cyclic alteration in the female tract. During the oestrous cycle, the primordial follicle will be developed into the Graafian follicle before the ovulation and it takes place under the influence of hormonal control. This work was carried out to study the general pattern of innervation in the ovary at different stages of the oestrous cycle. Twenty-four adult female Sprague Dawley rats were used to perform the goal of the study. These rats were sacrificed after the detection of their cycle stage by vaginal smears and the ovaries were fixed and section using a frozen cryostat. Detection of nerve fibers was done using the immunohistochemistry technique. The results from this study showed that there is innervation in the ovary throughout the oestrous cycle indicated by the presence of PGP 9.5-immunoreactive nerve fibres. The number of nerve fibres found during each stage of the oestrous cycle significantly varies; the nerve fibre count during the oestrus stage was significantly higher ($P < 0.05$) than the nerve fibre count at proestrus, metestrus, and diestrus stage. In conclusion, immunohistochemistry PGP 9.5 marker was a useful approach and indicator for nerve fibers distribution in organs which can be changed with different physiological conditions.

Keyword: Oestrus cycle; Diestrus; Ovary; PGP 9.5; Immunohistochemistry; Rat