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Effects of Estrogen Receptor Agonist on the Morphology of Accessory Genital Glands of Male Mouse

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This study investigated that exposure of male mice to estrogen receptor agonist, (4,4',4"-(4-propyl-[1H]-pyrazole-1,3,5-triyl)*tris*-phenol, PPT) altered morphology of accessory genital glands. The PPT was subcutaneously given to adult male mice at a weekly dosage of 178.6mg/kg in a volume 0.08ml of vehicle for 3, 5, or 8 weeks. The PPT induced decreases of body, seminal vesicles, bulbourethral gland and ventral prostate weights with experimental time. PPT-treated group with the agonist showed epithelium hyperplasia and significantly increased connective tissue surrounding epithelium in the seminal vesicles. Especially, the glandular lumen was contracted when control and PPT-treated animals were compared. The glandular lumen of ventral prostate was contracted whereas connective tissue surrounding the epithelium in the prostate was increased. Detached epithelial tissues were appeared in the lumen of the prostate on week 8 with treated group. Secretion cells of bulbourethral gland were smaller than that of control group.

Key words: Estrogen receptor, prostate, seminal vesicle, histological method

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Estrogen Receptor Agonist Causes Morphologic Changes in Testis, Efferent Ductule and Epididymis of the Mouse

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Effects of the estrogen receptor agonist, PPT was investigated in testis, efferent ductule and epididymis of the mouse. There were significant differences on week 3, 5 and 8 post treatment in the testis weight between control and PPT treated groups. On week 8 post treatment, the testis weight was 18.0 mg compared to 88.2 mg for the controls. The seminiferous tubular diameter was also reduced when control and treated groups were compared. In the efferent ductules, epithelial cell height was significantly decreased on week 8 post treatment. The weight of epididymis was noticeably reduced in the treated group. Also weight and size of white adipose tissues attached in the epididymis was decreased in the treated group. On week 8 post treatment, epididymal fat weighed for 38.4 mg, whereas weighed for 350.8 mg in the controls. The height of epithelial cells in the initial segment region was 21.9 μm in the treated group compared to 59.3 μm for the controls, a significant difference of 55.6% on week 8. Stereocilia density of the initial segment were loosed until week 5 post treatment. And the stereocilia were disrupted on week 8 treatment.

Key words: Estrogen receptor agonist, mouse, testis, epididymis, efferent ductule