

Effects of Prepubertal Acute Immobilization Stress on Serum Kisspeptin Level and Testis Histology in Rats.

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Abstract

Stress has inhibitory effect on HPG axis through increasing cortisol serum level. In this study, the effect of acute prepubertal stress on kisspeptin, which plays essential role in puberty achievement is assessed. To do this experimental study thirty immature healthy male wistar rats of 4 weeks old and without any symptoms of puberty were selected randomly.

These rats were divided into three groups, randomly. Two groups were chosen as control and pretest and one as stress (test) group. Immobilization stress was applied for 10 days and serum level of cortisol, testosterone and kisspeptin were measured. Primary and secondary spermatocyte and sertoli cell evaluated and compared among groups.

Mean serum level of kisspeptin in pretest group, control group and stress (test) group were 0.0381 ± 0.0079 , 91.0500 ± 4.87430 and 15.2156 ± 3.88135 pg mL⁻¹

respectively. Serum level of kisspeptin had significant differences between three groups ($p < 0.001$). Acute prepubertal immobilization stress led to decrease in serum level of kisspeptin and testosterone in stress (test) group compared to control groups. Also stress caused a significant decrease in the numbers of secondary spermatocytes of the test group.