# EFFECTS OF CHRONIC EXPOSURE OF MONOSODIUM GLUTAMATE ON SPERMATOGONIUM, SERTOLI AND LEYDIG CELLS COUNT IN YOUNG MALE WHITE WISTAR RATS

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## ABSTRACT

**Introduction:** MSG is one of the most commonly used food additives and suspected that MSG may cause spermatogenesis impairment, especially when given continuously in the childhood.

**Objective:** To find out the number of spermatogonium cell, sertoli cell and leydig cell after chronic MSG administration in young wistar strain rats

**Material and Method:** Thirty wistar strain white rats, 12 weeks age, were randomly divided into 5 groups, each group consisting of 6 rats. The rats in the negative control group underwent a sham surgery and then taken its left testes. The other 4 groups were given MSG doses of 5mg / day, 6mg / day, 12mg / day and 18mg / day for 30 days then taken the left testes. Then the number of spermatogonium cells, sertoli cells, and leydig cells was observed by hematoxylin eosin.

**Results:** There was a significant decrease in spermatogonium, sertoli and leydig cells in the treatment group of MSG 18mg / day for 30 days compared with the negative control group ($p < 0.005$) and no difference in spermatogonium, sertoli and leydig cell count in the group treatment of MSG 5mg / day and 6mg / day for 30 days when compared with the negative control group ($p > 0,005$).

**Conclusion:** The administration of MSG at chronically 18 mg / day dose (1 month) in young male wistar strain rats significantly decreased spermatogonium, sertoli and leydig cell count.