

Histological effects of chronic multiple stress on rat ovary

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*Abstract

Background: Investigating effects of stress in animal models may suggest clinical treatments or prevention protocols for effects of stress in humans.

Objective: The aim of this study was to determine the histological effects of chronic multiple stress on rat ovary.

Methods: This experimental study was conducted in 18 adult female Wistar rats that were randomly divided into two equal groups in Qazvin University of Medical Sciences during 2014. The mice were exposed to different stress including food deprivation, water deprivation, immobility at 4°C, forced swimming, and isolation for 10 days in the under stress group while the mice in the control group were kept in their cages without any intervention. After the intervention period, the mice were anesthetized, the ovary of the animals were removed and weighed, and the ovary samples were prepared for light microscopic study. The number and diameter of corpus luteum, and the number of antral and preantral follicles were determined using Image Tool software. Data were analyzed using T-test.

Findings: The mean number and diameter of corpus luteum significantly reduced in the under stress group compared to the control group. The mean number of antral and preantral follicles significantly reduced in the under stress group compared to the control group.

Conclusion: With regards to the results, it seems that chronic multiple stress can have negative effects on rat ovary by reducing the diameter and number of corpus luteum and the number of antral and preantral follicles.

Keywords: Food Deprivation, Rats, Corpus Luteum, Ovarian Follicle

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