

عنوان مقاله:

The Ultrastructural Changes of the Sertoli and Leydig Cells Following Streptozotocin Induced Diabetes

محل انتشار:

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خلاصه مقاله:

Objective(s) This investigation was conducted to evaluate the effects of diabetes on the structure and function of testicular tissue. **Materials and Methods** Diabetes was induced in male adult rats by a single intraperitoneal injection of streptozotocin. Body and testicular weight, hormonal analyses, histological and ultrastructural analyses were measured. **Results** The body and testicular weights were dropped significantly ($P < 0.05$) in diabetic rats in comparison with control rats. On the other hand, in diabetic rats, the blood glucose level increased significantly ($P < 0.05$). The blood plasma levels of testosterone, 17β estradiol, progesterone, FSH and LH were reduced in diabetic rats. Histomorphological studies were revealed reduction in diameter of seminiferous tubules and germinal epithelium height, edema in interstitial tissue, germ cell depletion, decrease in cellular population and activity with disruption of spermatogenesis in diabetic rats. Ultrastructural study showed the mitochondrial change and reduction of smooth endoplasmic reticulum in Sertoli and presence of lipid droplets in Leydig cells of diabetic rat's testes. **Conclusion** The results of the present study confirmed that, the ultrastructural changes of Sertoli and Leydig cells, brought about by streptozotocin induced diabetes, because of the alterations in pituitary gonadotropins, and these changes influence the normal spermatogenesis in rats.

کلمات کلیدی:

Diabetes, Electron Microscopy, Leydig cell, Sertoli cell, Testis

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