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Gross and microscopic changes on rat testes due to the effect of cisplatin

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Introduction & Aim: Cisplatin chemotherapy is mainly used in children and adolescents to treat bladder, head and neck and other cancer. Most germ cell malignancies eliminated by a combination of cisplatin, surgery and radiotherapy, leading to an overall cure rate of about 95%. So the side effects of cisplatin on cardiovascular and reproductive system are of great clinical concern. The purpose of this study is to observe the effect of cisplatin in rat testes on different doses.

Method: Experimental study was carried out in 45 healthy adult male albino rats. They were divided into three groups, one control and two experimental groups (n=15 per group). One experimental group was exposed to three rounds of 1 mg/kg body weight of cisplatin whereas other group received three rounds of 2.5 mg/kg body weight of cisplatin. On 63rd day, the rats were anaesthetized and sacrificed to take out testes for histological study.

Findings: A dose-dependent reduction in weight, diameter and volume of testes was observed. Significant reduction of germ cells and sertoli cells were observed in high dose experimental group ($p<0.0$) with loss of normal architecture of seminiferous tubules.

Conclusion: This study has shown that cisplatin produces dose dependent effect in rat testes with irreversible effect in high dose. Techniques such as spermatozoa cryopreservation and Intracytoplasmic Sperm Injection (ICSI) are recommended to preserve the fertility in men undergoing anticancer therapies.

Biography

Muna Kadel has completed his Master's degree in Human Anatomy. His interest is on studying the effects of different anti-cancer drugs in different systems by using animal model.

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