

Investigation Effect of High-Dose Fluoxetine on Modified Semen Morphology and Protective Effect of Pomegranate (*Punica granatum* L): Pilot Study

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Abstract

Aim: Depression and antidepressant drugs induce adverse effects in male fertility. The aim of this study is to determine the effect of high-dose fluoxetine treatment on sperm morphology and to prospectively investigate the protective effect of pomegranate (*Punica granatum* L.) against fluoxetine-induced sperm morphological changes in rats.

Material-Method: Male Sprague Dawley rats will divide into six groups, first 7 rats as sham group; will receive Dimetil sülfoksit (DMSO) / intraperitoneal (i.p.), second; control will receive distilled water only, third; 7 rats; will receive fluoxetine 10 mg/ kg/peroral (p.o.), fourth; fluoxetine 100 mg/kg/p.o., fifth; fluoxetine 10 mg/kg/p.o. + Pomegranate; 10 piko gr/kg/ i.p. sixth; fluoxetine 100 mg/kg/p.o. + Pomegranate; 10 piko gr/ kg/ i.p. all groups will treat for seven days. The morphological changes of seminiferous tubules will analyse by haematoxylin-eosin (H&E) staining technique. Each stained section will evaluate under a light microscope (Olympus BX43). TUNEL method will use to detect apoptosis in tissue samples. ApopTag kit will apply according to the manufacturer's recommended protocol (S7101, ApopTag® Plus Peroxidase In Situ Apoptosis Kit from EMD 40 assays, MILLIPORE).

Results: The morphological changes of seminiferous tubules of the all groups will investigate and research how different each other about histological and tissue changed differences between each other.

Conclusion: This study will show that antidepressant treatment with fluoxetine on testicular function and sperm morphology and indicate that treatment with Pomegranate will show how effect on this process.

Keywords

Experimental study, Semen Morphology, Pomegranate.

Acknowledgement

The study is currently in the research phase; a definitive ethical committee approval has not yet been obtained from the relevant local ethics committees. It will be implemented when the necessary infrastructure is available and appropriate cost analyses are completed.