

# Tissues, Pathology, and Diagnostic Microscopy

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### The effect of exogenous oxytocin on streptozotocin (STZ) -induced diabetic adult rat testes

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Oxytocin (OXY) is known as an antioxidant in several organs. The aim of this study is to investigate the therapeutic and protective effects of oxytocin treatment on streptozotocin (STZ) induced diabetes in testicular tissue (1, 2).

*Wistar Albino* rats were divided into four groups: 1) Control group (n:6): 0.3 ml saline solution was injected intraperitoneally (i.p.), 2) STZ group (n:6): a daily single dose of STZ (65 mg/kg) was injected i.p. for 4 consecutive weeks, 3) Pre-Oxytocin group (n:6): 5 µg/kg of oxytocin was injected i.p. for 5 days before administration of a daily single dose of STZ injection for 4 consecutive weeks, 4) Post-Oxytocin group (n:6): a daily single dose of 5 µg/kg oxytocin was injected i.p. for 5 days following STZ injection for 4 weeks. The rats whose blood glucose levels were more than 200 mg/dL were included to the experiment. Following sacrifice at the end of the 4<sup>th</sup> week, testes tissue samples were taken to be processed for light and transmission electron microscopy.

Testicular tissues were stained with Haematoxylin and Eosin (H&E) and Periodic acid-Schiff (PAS) reaction and evaluated under light microscope to determine the degree of histopathological damage. Light microscopy, as well as transmission electron microscopy revealed that oxytocin treatment decreased the testicular tissue damage in pre- and post-oxytocin groups, as being significantly increased in STZ group.

In conclusion oxytocin is suggested as a potential agent to protect STZ- induced diabetic rat testes.

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