

## Effects of Olive leaf extract on testicular ischemia/reperfusion in rat

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**Introduction:** Testicular torsion and its surgical detorsion causes ischemia/reperfusion injury which damages the testicular tissue and leads to infertility by reduction of the sperm quality.

**Purpose:** The aim of the present study was to evaluate the effects of olive leaf extract on the treatment of testicular IR injury in rat.

**Materials and methods:** 30 male wistar rats were divided randomly into 5 groups (each containing 6 rats); control, ischemia/reperfusion, ischemia/reperfusion plus olive leaf extract (50,100 and 200mg/kg). Ischemia was induced manually by rotating the right testis to 720 degrees counterclockwise and testis maintained in the torted position for 1hour, then reperfusion was performed by counter rotating. Olive leaf extract was orally ingested for 20 days to animals. The testes were processed for histopathological examination in the end of 30 days reperfusion period.

**Results:** Untreated ischemia/reperfusion group showed extensive areas of seminiferous tubular necrosis with a significant decrease in tubular diameter and germinal epithelium height of seminiferous tubules when compare with control group (34.8% reduction in the case of tubular diameter and 43% decrease in epithelium height). Rats that were treated with extract (200 mg/kg) showed significant increase in these values and showed improvement in testicular histopathology when compared to the untreated ischemia/reperfusion group.

**Discussion and conclusion:** The results showed that olive leaf extract, when administered orally provided significant protection against testicular ischemia/reperfusion injury.

**Key words:** Olive leaf extract, Ischemia/reperfusion, testis