## **RESEARCH HIGHLIGHTS**

## Aliskiren might have a protective effect in testicular torsion–detorsion injury

The direct renin inhibitor aliskiren might be useful in protecting the testes from ischaemia–reperfusion injury following testicular torsion injury, according to a new animal study published in *The Journal* of Urology.

Following testicular torsion injury, the testicles can become necrotic and lose viability if not treated appropriately and quickly. The tissue should be reperfused immediately, but studies have shown that blood reaching the tissue after reperfusion might cause more severe damage. The renin–angiotensin–aldosterone system has an important role in such damage.

Harun Un and co-workers in Turkey investigated the potential protective effects of aliskiren in ischaemia–reperfusioninduced testicular injury in 96 Albino Wistar rats aged 10–12 weeks. The rats were divided into eight groups, with 12 rats in each group, and treated as follows: sham, sham plus aliskiren 200 mg/kg, torsion, torsion plus detorsion, torsion plus aliskiren 100 mg/kg, torsion plus aliskiren 200 mg/kg, torsion plus detorsion plus aliskiren 100 mg/kg and torsion plus detorsion plus aliskiren 200 mg/kg. Aliskiren was administered to the treated groups 24 h before the operation that induced testicular damage, and again 30 min before torsion in the torsion groups and 30 min before detorsion in the torsion plus detorsion groups. Testis torsion was applied for 2 h. Detorsion was continued for 2 h after torsion in the torsion plus detorsion groups.

The researchers found that testicular damage resulted in decreased superoxidedismutase and glutathione levels and increased malondialdehyde levels in rat testes tissues; they found that administration of aliskiren had opposing effects. They also showed that aliskiren administration reduced the increases in inflammatory



cytokines induced by torsion and detorsion damage. Histopathological investigation showed that aliskiren seemed to have a protective effect in the testes, increasing the numerical density of mature spermatids. Aliskerin was also shown to increase serum renin levels and decrease serum angiotensin II levels.

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