

Protective Effect of Rivaroxaban Against Testicular Ischemia-Reperfusion in Rats

Authors : Marwan Abdel Baset, Sally A. El Awdan, Marwa S. Khattab, Salma A. El-Marasy

Abstract : Rivaroxaban (RVX) is used to treat thrombosis however its effect on testicular IR has not been investigated yet. This study investigates the effect of RVX on testicular ischemia-reperfusion in rats. Rats were randomly allocated into 4 groups. The sham group, testicular ischemia-reperfusion (IR) group, the remaining 2 groups were treated with RVX in doses of 7 and 14 mg/kg, respectively for a week prior IR. Then biochemical parameters were carried out in addition to western blot analysis. RVX-treated groups showed significant reduction in protein expression of hypoxia-inducible factor (HIF-1 α) and vascular endothelial growth factor (VEGF) associated with elevation in testosterone level, reduction in malondialdehyde (MDA), elevation in glutathione peroxidase (GPX), reduction in nuclear factor kappa-B p65 (NF- κ B p65), reduction in Bax (Bcl2-associated X protein) and elevation in BCL2 (B-cell lymphoma 2), content. Moreover, RVX reduced caspase-3 protein expression. It can be concluded that HIF-1 α mediated RVX's anti-oxidant, anti-inflammatory and, anti-apoptotic effect in rats subjected to testicular IR.

Keywords : HIF-1 α , rats, rivaroxaban, testicular ischemia-reperfusion

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