



Effects of Adrenalin on Ovarian Injury Formed by Ischemia Reperfusion in Rats

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SUMMARY. In this study, the impacts of adrenalin on ovarian injury caused by ischemia reperfusion were investigated in rats. In addition, it's been investigated whether there is a correlation between adrenergic receptors and oxidant/anti-oxidant and COX1/COX-2 levels. It's been observed that the COX-2 level that is responsible for MDA and inflammatory reaction (which are the indicators of oxidative stress in ovarian tissue to which ischemia reperfusion was applied) increased and the COX-1 levels that are responsible for GSH (an endogenic anti-oxidant with protective impact) were depressed. Adrenalin has prevented an increase in MDA and COX-2 activity in the ovarian tissue, to which I/R was applied, and prevented a reduction in GSH and COX-1 activity. However, adrenalin failed to prevent an MDA increase in ovarian tissue, to which alpha-2 adrenergic receptor blocker yohimbine was given (I/R formed), and also failed to prevent a GSH and COX-1 decrease. Adrenalin also failed to inhibit the COX-2 activity increase in ovarian tissue, to which beta blocker was applied. As a result, stimulation of the alpha-2 adrenergic receptors in an ovarian tissue causes an anti-oxidant and protective effect, while stimulation of beta-2 adrenergic receptors causes an anti-inflammatory effect. It's been thought that adrenalin protects the ovarian tissue against ischemia reperfusion by stimulating the alpha-2 and beta-2 adrenergic receptors.

KEY WORDS: Adrenalin, COX1/COX-2 levels, Ischemia reperfusion, Ovarian injury, Rats.

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