ISCHEMIA-MODIFIED ALBUMIN IN EXPERIMENTAL OVARIAN TORSION

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Ischemia modified albumin (IMA) is considered to be a product of reactive oxygen species (ROS) interaction with albumin in acute ischemia[1]. Ovarian torsion (OT), being a surgical emergency, requires detorsion of the torsioned ovary, but the process involves ROS production[2]. As oxidative stress enhances in conservative OT management, the objective of our study was to investigate the IMA changes in the serum of healthy female rats that were exposed to different ovarian torsion/detorsion models.

Materials and methods. 70 animals (Rattus albicans), were divided into 7 groups (n=10): nr. 1: no intervention; nr. 2: only laparotomy; nr. 3: 3 hours OT; nr. 4 and 5: 3 hours OT with 1 hour simple reperfusion or 1 hour controlled reperfusion; nr. 6 and 7: OT for 3 hours with 24 hours simple reperfusion or 24 hours controlled reperfusion. Controlled reperfusion-the first 2 minutes with 10 seconds intervals we opened and closed the clips on the ovarian annexes, followed by continuous reperfusion.

The IMA levels determination was based on the decreased albumin capacity to bind cobalt.

Results. 3 hours OT group had a statistically significant high IMA levels compared to no intervention group. The controlled reperfusion groups had a statistically significant low IMA levels compared to simple reperfusion groups.

The prospects for further research and conclusions.
Decreased levels of IMA in controlled reperfusion groups may indicate that this type of reperfusion is able to
protect the organ from ROS production. This relationship require further studies.

References:


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