

## 9<sup>th</sup> Yazd International Congress and Student Award on Reproductive Medicine with 4<sup>th</sup> Congress of Reproductive Genetics

### Poster Presentations

**P-94**

#### **Alpha-lipoic acid reduces inflammation in the mouse ovarian tissue following transplantation**

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**Background:** Ovarian tissue transplantation can restore fertility in cancerous patients. Ischemia-reperfusion injury and inflammation are major restrictions of ovarian tissue transplantation. Alpha-lipoic acid (ALA), as a potent anti-inflammatory and antioxidant agent, is capable of scavenging free radicals.

**Objective:** We aimed to evaluate the effect of ALA on the serum level of inflammatory factors such as interleukin6, 10 (IL6,10) and Tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) following mouse ovarian tissue transplantation.

**Materials and Methods:** 24 Mice were divided into: control, autograft + saline (whole ovarian tissue transplanted in the gluteus superficialis muscle,

receiving intraperitoneal injections of saline), autograft + ALA (receiving 100 mg/kg" intraperitoneal injections of ALA, 30 minutes before transplantation). 7 days after ovary transplantation, serum concentrations of IL-6, IL-10 and TNF- $\alpha$  were assayed. Data were analyzed using one-way ANOVA and Tuckey's test and the means were considered significantly different at p-value < 0.05.

**Results:** Serum concentrations of TNF- $\alpha$  and IL-6 in the autograft group increased significantly compared to the control, while it showed a significant reduction in the autograft + ALA group compared to the autograft group. Moreover, the serum level of IL-10 was significantly lower in the autograft group when compared to the control counterpart. Whereas it showed a significant increase in the autograft + ALA group compared to the autograft group (p < 0.05).

**Conclusion:** ALA can decrease inflammation through its antioxidant effects, therefore can prevent ischemia-reperfusion induced damages and improve the function of the grafted ovary.

**Key words:** Ovarian tissue transplantation, Alpha-lipoic acid, Ischemia-reperfusion, Inflammation, Free radicals.