

## **38: THE IMPACT OF REPETITIVE OOCYTE RETRIEVAL ON THE OVARIAN RESERVE – A RETROSPECTIVE COHORT STUDY**

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### **Objective**

To investigate a possible influence of repetitive micro-traumata on the ovaries in the course of oocyte retrieval during IVF/ICSI-treatment on serum anti-Müllerian hormone (AMH) levels.

### **Design**

Retrospective cohort study.

### **Materials and Methods**

To evaluate changes in serum-AMH levels on cycle day 1-3 during the course of repetitive IVF/ICSI treatments, we examined in a university clinic unit women who underwent three or more consecutive IVF/ICSI treatments between 2007 and 2017.

### **Results**

A total of 125 patients were included in this study. Mean AMH levels before the first, second and third IVF/ICSI cycle were  $3.26 \pm 4.86$  ng/mL,  $2.97 \pm 2.83$  ng/mL and  $2.76 \pm 2.60$  ng/mL, respectively (pall=n.s.). In patients that underwent IVF/ICSI due to polycystic ovary syndrome (PCOS), we found a significant decrease in AMH serum levels between the first and the third (delta AMH 7.04ng/mL,  $p=0.038$ ), and the second and the third cycle (delta AMH 3.65ng/mL,  $p=0.034$ ). When performing a generalized linear model, we found PCOS to be an independent predictor for serum-AMH decrease during the course of three oocyte retrievals ( $p<0.001$ ).

### **Conclusion**

When comparing the indications for IVF/ICSI, we observed a significant decrease in AMH serum levels after repetitive oocyte retrievals only in women with PCOS, while the decrease in AMH was not significant in patients with tubal factor, endometriosis, male factor and unexplained infertility. This finding leads us to hypothesize, that repetitive micro-traumata on the ovarian cortex might diminish/normalize functional ovarian reserve in women with PCOS. Further prospective studies are highly warranted to allow firm conclusions.

### **Support**

None