patients were randomized and ovarian stimulation were performed with clomiphene citrate , gonadotropin and antagonist (group I) or microdose GnRH agonist flare (group II) protocols. Main outcomes was clinical pregnancy rate and doses of gonadotropin administration and duration of stimulation were secondary outcomes.

Results: Although the cancellation, fertilization, and clinical pregnancy rates were similar in both groups. The endometrial thickness, number of retrieved oocytes, mature oocytes and implantation rate were significantly higher in mild protocol. The doses of gonadotropin administration and duration of stimulation were significantly lower in mild protocol.

Conclusion: We recommend mild protocol in ART cycles for poor responders based on the our results regarding less doses of used gonadotropin and a shorter duration of stimulation.

Key words: *Poor responders, GnRH agonist, GnRH antagonist, Clomiphene citrate, IVF.*

A-4

In vivo differentiation of Mesenchymal Stem Cells (MSCs) in rat torsion testis

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Introduction: Regenerative medicine has enjoyed the potential of Mesenchymal adult Stem Cells (MSCs) in therapeutical levels. Reproductive impotency as a major medical problem is being approached by stem cell therapy in recent years. Azoospermia caused by torsion in testis is a common source of impotency, which has not been touched by this approach yet.

Materials and Methods: MSCs were extracted from rat bone marrow, cultured and transplanted into azoospermed testis to investigate the regenerative capacity of the cells in torsioned testis. We used germ cell specific markers (Oct4, Dazl, Vasa and c-Kit) to assess the differentiation of MSCs after transplantation into the azoospermed testis.

Results: The extracted MSCs were shown to grow well in the cultured flasks. Following the successful labeling with DiI, the testis injected cells were proven to last for long time post transplantation. While expression of Oct4 and Dazl were detected 45 days after the cell treatment, Vasa and c-Kit proteins were not detectable after this period of time. 95 days after MSC transplantation, Oct4, Dazl and Vasa expression were detectable, but c-Kit remained undetectable yet. Meanwhile in predicted positions of the implanted cells it did not seem to have c-Kit expression 180 days after transplantation, and consequently the biopsies did not show any sperm formation.

Conclusion: In this study, for the first time, regenerative capacity of stem cells in torsion induced azoospermia in rats was evaluated. We used MSCs transplantation to revive the spermatogenesis in torsion testis. This capacity was monitored using different molecular markers.

Key words: *Mesenchymal Stem Cells (MSCs), In vivo differentiation, Torsion testis.*

A-5

Maturation capacity, morphology and morphometric assessments of human immature oocytes after vitrification and in vitro maturation

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Introduction: Immature oocytes collected in ART cycles may be cryopreserved further for use in in-vitro maturation (IVM) program. The aim of this study was to determine maturation capacity, morphometric parameters and morphology of human immature oocytes in both fresh IVM (fIVM) and vitrified-IVM (vIVM) oocytes.

Materials and Methods: 93 women aged 21-49 year old who underwent controlled ovarian stimulation for ART were included. The immature oocytes (n=203) were divided into two groups: (I) immature oocytes (n=101) that were directly