9th Yazd International Congress and Student Award on Reproductive Medicine with 4th Congress of Reproductive Genetics

Oral Presentations

O-21
Viability of isolated preantral follicles using decellularized ovarian tissue after grafting under the kidney capsule

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Background: nowadays scientist use decellularized tissue as a novel technique in regenerative medicine. Recently the application of decellularized tissue in the field of human fertility preservation has been studied. Due to the high resemblance of decellularized ovarian tissue to the main organ, it can be used as a scaffold for follicle growth and development.
Objective: Mice ovarian follicles can be viable and seed into the acellular scaffold after 7 days of grafting.
Materials and Methods: In this study fragmented bovine ovarian cortex (2 × 2 mm) were decellularized by Sodium dodecyl sulfate, Triton X100 and Ammonium. 120 primordial follicles of NMRI mice were isolated and put into the decellularized scaffold (n = 30/ 4 scaffold) then transplanted under the kidney capsule for 7 days. H&E staining was used to determine follicle morphology after transplantation. Follicular proliferation was measured by Ki-67 antibody. Apoptosis (TUNEL) and vessel formation (CD31) were analyzed.
Results: According to the H&E staining results, after 7 days of grafting, 38/120 follicles were viable (31.6%) and seeded into the scaffold. Ki67-positive OCs was found in 15.2% of cells of the grafted scaffold. While TUNEL-positive cells were in 13.7% of granulosa cells. According to H&E staining results and CD34-staining, vessels were found inside the scaffold after 7 days of grafting.
Conclusion: This study shows that follicles can survive and seed into the acellular matrix after 7 days of grafting.
Key words: *Fertility preservation, Ovary, Scaffold.*