

عنوان مقاله:

Follicular development and the expression of BAX and vascular endothelial growth factor in transplanted ovaries in uni- and Bilateral ovariectomized mice: An experimental study

محل انتشار:

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خلاصه مقاله:

Background: Several conflicting results have been reported on the survival and function of transplanted ovaries. Objective: Evaluation of the follicular development and the expression of vascular endothelial growth factor (VEGF) and Bcl-2-associated X protein (BAX) (in ovaries transplanted into uni- and bilaterally ovariectomized mice. Materials and Methods: In this experimental study, 40 female NMRI mice (21-days-old, 12-15 gr) were ovariectomized uni- and bilaterally (n = 20/ group), while the 8-wk-old mice were considered as intact control group (n = 6). 5 weeks after transplantation at the proestrus stage, the morphology of recovered transplanted ovaries and the proportion of follicles were studied at different developmental stages. The apoptosis cell death by pro-apoptotic protein BAX and the expression of VEGF were evaluated using immunohistochemistry. Results: In the bilaterally ovariectomized mice, among the 455 counted normal follicles, a lower rate of primordial and primary follicles and a higher rate of preantral and antral follicles were observed (p = 0.002). However, the percentages of preantral and antral follicles, and the corpus luteum were significantly lower in the intact control group (among the 508 counted normal follicles in this group) compared to other transplanted groups (p = 0.002). The number of BAX-positive cells in all groups was not significantly different. The VEGF expression was prominent in vessels of the corpus luteum, and also in the theca layer of large follicles of studied groups. Conclusion: Early discharge of ovarian reserve was prominent in the bilaterally ovariectomized group but the incidence of apoptotic cells and VEGF expression as angiogenic factor did not differ in both ovariectomized mice. Thus, unilaterally ovariectomy has less side effects on the ovarian reserve compared to bilateral ovariectomy.

کلمات کلیدی:

Autotransplantation, BAX protein, Vascular endothelial growth factor, Ovariectomy, Mice
فاکتور رشد اندوتلیال عروقی، برداشت تخمدان، موش، اتوگرافت، پروتئین BAX

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