

عنوان مقاله:

Evaluation of embryo quality after concurrent use of ovarian stimulating hormones and gamma irradiation

محل انتشار:

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خلاصه مقاله:

Background: Radiotherapy has many side effects on fertilization in young women. Radiation can lead to ovarian failure in women who underwent abdomen or pelvic radiotherapy. Objective: This study helps us to investigate ovarian response of NMRI female mice to ovarian stimulating hormones (PMSG, HCG) after whole-body gamma irradiation. Materials and Methods: 45 pregnant mice were divided into two groups of control and experimental. The experimental group was classified into three sub-groups: Irradiation group (2 or 4Gy), Superovulation group (10 or 15IU), and superovulation and gamma-radiation group (2Gy & 10IU, 2Gy & 15IU, 4Gy & 10IU, 4Gy & 15IU). Female mice were killed and embryos were removed from oviduct. The number of embryos cells counted and the quality of them was evaluated in each group. Kruskal-Wallis test and Mann-Whitney test were used to analyze the data. Results: There was a significant difference in the number of 2-4 cells grade D embryos in 2Gy & 15IU group compared with control and 2Gy groups ($p=0.01$), and the number of embryos in 4Gy group was more than in 10IU and 15IU ($p=0.03$) and 2Gy & 15IU groups ($p=0.01$). It was more significantly embryos in 4Gy & 15IU group compared to 2Gy & 15IU group ($p=0.01$). In addition There were no significant differences in the number of 2-4 cells grades A, B and C embryos and also number of 4-8 cells grades A, B and C, D embryos in groups. Conclusion: The concurrent use of ovulation stimulating hormones and gamma rays ameliorates this problem of drastic decrease in number of living embryos due to whole-body irradiation.

کلمات کلیدی:

PMSG-HCG, Gamma rays, Whole body irradiation

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