

ABSTRACT

PURPOSE: to investigate the effects of ionizing radiation to p53 expression and apoptosis of acini cells of mice salivary gland. **MATERIAL AND METHOD:** Male BALB/c mice were irradiated with 50 rad of γ ray. Irradiation was given to whole body. p53 and apoptosis were examined after 24 hour and 48 hour after exposure. As control groups, mice were irradiated with zero rad of γ ray and salivary glands were examined at same time. Examination of p53 was by immunohistochemistry and apoptosis was by TUNEL assay. **RESULTS:** Expression of p53 in treatment group, elevated 7 folds at 24 hours after exposure and 3 folds at 48 after exposure, in comparison with control groups. Cells undergo apoptosis in treatment group elevated 9 folds at 24 hours after exposure and decreased until 3 folds in comparison with control groups at 48 after exposure.

Key word: apoptosis, salivary gland, p53, and ionizing radiation