



## IRANIAN JOURNAL OF NUCLEAR MEDICINE

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**Methods:** In this study 18 male Balb/C mice were divided into 3 groups, 6 in each group (the first group: sham-exposed (none exposed), the second group: were irradiated 4h (once a day), the third one: were irradiated 2h (twice a day). All groups were exposed for 30 days. RNA was extracted from all mice cerebellum and after that CDNA was synthesized. The expression level of pro-apoptotic gene (Bax) was evaluated. Gene expression levels were quantified with relative quantitative Real-Time PCR. Comparisons of the expression levels in irradiated and sham-irradiated samples were performed by using GAPDH as an internal control for normalization of the results.

**Results:** Up-regulation of Bax occurred in both exposed groups. The second group showed a significant difference with the third group ( $P=0.025$ ) and sham-exposed group ( $p=0.04$ ). But the difference between the third and sham-exposed group was not significant ( $P=0.3$ ).

**Conclusion:** The results showed that RF exposure increases apoptotic gene expression level, and increasing of apoptosis can cause malfunction. But it can be decreased by dividing length of exposure time into several smaller periods.

#### P 043 The interference of thyroglobulin with thyroglobulin autoantibodies measurement

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It is known that thyroglobulin antibodies (TgAbs) interference is the most serious problem affecting thyroglobulin (Tg) measurement, but possible interference of Tg with TgAbs measurements has not been tested previously. The aim of this study was to explore the influence of Tg on TgAbs concentration measured by a competitive "one-step" radioimmunoassay.

We have used standard Tg concentrations (53, 200 and 510 ng/ml) and 10 patient's sera with previously measured concentrations of TgAb (100-4245 IU/ml) and undetectable Tg concentrations. Patient's sera with known TgAb concentrations were preincubated with standard Tg concentrations (53, 200 and 510 ng/ml), volume ratio 1:1, during 30 min. After that, TgAb concentrations were measured by competitive "one-step" radioimmunoassay (CIS biointernational, France). In the same samples Tg concentrations were determined by immunoradiometric assay (THYRO) from the same manufacturer. The TgAb values measured in presence of standard Tg concentrations were compared with TgAb values measured without Tg. In the 9 of 10 patient's sera the TgAb concentrations measured in the presence of Tg were unvaried (80-120% of expected value), while in one sera the TgAb concentration was below 80% of expected values. Decrease of TgAb concentration was obtained after preincubation with high Tg concentrations (200 and 510 ng/ml) and it was dose-dependent.

When measuring the concentration of Tg in the same samples, in the presence of 2 of 10 patients sera standard Tg concentrations were decreased (below 80% of expected values), one of these sera had low and another very high concentration of TgAb, but these samples are different from sera in which interference of Tg with TgAb measurement was shown. Since the Tg in patients sera could interfere with TgAb measurement, the assessment the level of Tg in patients with differentiated thyroid cancer seems more complex.