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**FIVE-YEAR OUTCOME OF RADIOIODINE THERAPY IN PATIENTS WITH
SUBCLINICAL HYPERTHYROIDISM.**

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Introduction. Subclinical hyperthyroidism is a state of increased thyroid function with few or no clinical definitive signs or symptoms of hyperthyroidism, characterised by a decrease of serum thyrotropin (TSH) concentration below 0,1 mU/L, when serum levels of total and free thyroxin and triiodothyronin concentration are within normal ranges. Untreated subclinical hyperthyroidism can lead to overt hyperthyroidism and negative cardiovascular effects. Therefore, in some cases early treatment is beneficial.

Aim: the aim of study was to evaluate a five-year effect of radioiodine therapy (RAIT) on the achievement of euthyroidism, and prevention evolvement to overt hyperthyroidism.

Material and methods. We treated 150 patients, aged 30–70 years; 54 patients with multinodular goitre (MNG), 96 patients with autonomous nodule (ATN). Malignant changes were excluded in all nodules by fine needle aspiration biopsy. All the patients had serum TSH levels <0.1 mU/l and effective T-half measured by the use of T24 and T48 was more than 3 days at the time of treatment. The activity dose was calculated by the use of Marinelli's formula and ranged between 200 and 600 MBq. The absorbed dose (Gy) for MNG ranged between 150 and 260, and for ATN: 200–300. Follow up control was done every 6 weeks in the first year. Then every 6 months for 4 years.

Results. In general the success of treatment after 1 year were: 99% of patient with ATN and 92% of patient with MNG achieved euthyroidism. 1% of patient with ATN and 7% of patient with MNG develop hypothyroidism. 1% of the patients had persistent hyperthyroidism and received second dose of radioiodine therapy. After 3 years of RAIT 2% of patient with ATN and 8% of patient with MNG develop hypothyroidism. After 5 years of RAIT 2% of patient with ATN and 9% of patient with MNG develop hypothyroidism. In all the patients the symptoms and signs of subclinical hyperthyroidism disappeared (palpitation, tachycardia, atrial fibrillation, exercise tolerance improved, the blood pressure normalised and the quality of life improved).

Conclusions. The achievement of euthyroidism and the remission of the symptoms and signs of subclinical hyperthyroidism, were due to good diagnosis, well preparation of the patients; accurate measurement of administered activity, effective half-life, and well-organised follow up.