

Original article

Cigarette Smoking Has no Impact on the Effect of Radioiodine Therapy in Patients with Graves Disease

Vladan Sekulić^{1,2}, Milena P. Rajić^{1,2}, Marina Vlajković^{1,2}, Slobodan Ilić^{1,2},
Miloš Stević^{1,2}, Ivana Mišić^{1,2}, Milan Božinović^{1,2}

¹Department of Nuclear Medicine, Clinical Centre, Niš, Serbia

²University of Niš Faculty of Medicine, Serbia

SUMMARY

Presently, there is very little data on the impact of nicotine and other components of tobacco smoking on the outcome of radioiodine therapy (RIT) in Graves' disease (GD). Thus, this study was aimed to analyze a possible impact of cigarette smoking on the effect of radioiodine therapy in the patients with Graves' disease.

The study included 31 patients (16 smokers and 15 non-smokers) with GD, aged from 22 to 73 years, who were treated with a single dose of iodine-131 sodium iodide (¹³¹I-NaI) and subjected to a 12-month follow-up, thereafter. Patients were treated with antithyroid drugs (ATDs) before RIT and described very intense stressful events occurring prior to diagnosing Graves' hyperthyroidism. A successful response to RIT was defined as euthyroidism and subclinical or clinical hypothyroidism, while an unsuccessful response was defined as persistent hyperthyroidism.

Comparison of age (47.4±9.41 vs. 49.5±13.8 years, p=0.628) at the time of RIT, applied activity of ¹³¹I-NaI (372±78.4 vs. 363±43.7 MBq, p=0.675), and duration of ATDs therapy (3.47±3.33 vs. 4.94±5.62 years, p=0.387) between smokers and non-smokers showed no significant difference. The cumulative incidence of successful response to therapy in smokers and non-smokers was 31.2 vs. 46.7% (p<0.05), 50.0 vs. 60.0% (p>0.05), 56.2 vs. 60.0% (p>0.05), and 56.2 vs. 66.7% (p>0.05) after 3, 6, 9 and 12 months, respectively.

The results showed that cigarette smoking has no impact on the effect of radioiodine therapy after twelve-month period in patients who had experienced stressful events before the occurrence of Graves' disease. However, patients with smoking habits achieved successful response later than non-smokers.

Key words: Graves' disease, radioiodine therapy, cigarette smoking

Corresponding author:

Vladan Sekulić

phone: +381638569463

e-mail: vladansekulic@live.com and vsek_vlada@yahoo.com