Thyroid Remnant Ablation of Differentiated Thyroid Carcinoma: a comparison of Ablation success with High and Low Doses of Radioiodine.

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Abstract:

Objectives: To assess efficiency of low dose 131I in thyroid remnant ablation of patients with differentiated thyroid cancer after surgical treatment. Material and Methods: 88 patients with differentiated thyroid cancer, (age 20-75 years) tumor stage T1 to T3, with disease confined to the thyroid or cervical lymph nodes. All patients were treated with 131I after total thyroidectomy and pathologic lymph node resection, if present. A randomized double-armed prospective trial comparing low-dose [1110MBq (30mCi)] and high-dose [3700 MBq (100mCi)] radioiodine ablation. 39 patients received low dose and 49 patients received high dose. Six months after the administration of radioiodine, measurements of TG, anti-TG antibodies together with neck ultrasound exam and 131I whole-body scan were performed. The success rate of ablation is determined by negative whole body 131I scan, negative neck ultrasonography and serum thyroglobulin level less than 2 ng/mL. Results: Successful ablation reported in 23 out of 39 cases (58.9 %) in the group receiving low-dose radioiodine [1110MBq] versus 37 out of 49 cases (75.5 %) in the group receiving the high dose [2960-3700 MBq] (P value= 0.098). A second follow up was performed one year after the ablative dose for the cases who had successive ablation from both groups. In the low dose group, only 12 out of 23 patients (52%) were available, all of them didn't show any disease recurrence, versus 17 cases out of 37 in the high dose group, 16/17 patients didn't had recurrence, while in one case there was a recurrent disease at the thyroid bed. Conclusion: From this ongoing data, non-significant higher success thyroid remnant ablation was recorded for high compared to low radioiodine doses.

Keywords:

Differentiated thyroid cancer, radioactive iodine-131, remnant ablation.

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