Comparable ablation outcome between second and third ablation dose of 30 mCi radioactive iodine (I131) in patients with papillary thyroid cancer

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Objectives:

The aim of the current study is to compare ablation outcome post 30 mCi ablation dose of radioactive iodine (I131) used as a second and as a third ablation dose in patients with papillary thyroid cancer.

Methods:

Retrospective analysis of data of 372 patients with papillary thyroid cancer confined to the thyroid gland referred post total thyroidectomy for I131 ablation was performed. All received first ablation dose of 100 mCi of I131. Presence of residual thyroid tissue in follow up I131 whole body scan (WBS) with elevated unsuppressed serum thryoglobulin level (Tg) indicate incomplete ablation outcome. Those patients received 30 mCi of I131 reablation on outpatient basis. Patients post second ablation dose with small residual thyroid tissue in the neck seen in follow up I131 WBS 6-9 months post second ablation dose with elevated serum Tg level received a third ablation dose of 30 mCi. Follow up WBS and Tg level were performed 6-9 months post third dose to assess ablation outcome.

Ablation doses	First ablation dose (100mCi)	Second ablation dose (30 mCi)	Third ablation dose (30 mCi)	Ablation outcome
Number of patients	372 patients	123 patients	34 patients	372 Patients (100%)
Complete ablation	249 patients (66.9%)	89 patients (72.4%)	26 patients (76.5%)	364 patients (97.8%)
Incomplete ablation	123 patients (33.1%)	34 patients(27.6%)	8 patients (23.5%)	8 patients (2.2%)
Response rate	Post first dose: 66.9%	Post second dose: 72.4%	Post third dose: (76.5%)	Post the three doses (total 160mCI)97.8%
Total successful complete ablation outcome	Post first dose: 66.9%	Post first and second doses (total: 130 mCi) :90.9%	Post three doses (total:160mCi): 97.8%	

Results:

Complete ablation rate post first dose (100 mCi of I131) was reported in 249 patients (66.9%). Out of the remaining 123 patients complete ablation was achieved post 30 mCi second ablation dose in 89 patients, with successful complete ablation rate of (72.4%) with an overall complete ablation post two doses achieved in 338 patients (90.9%). A third ablation dose of 30 mCi was given to the remaining 34 patients. Complete ablation was reported in 26 patients, with complete ablation rate of the third dose of (76.5%), with no statistically significant difference ($p > 0.05$) between complete ablation outcome using 30 mCi as a second and as a third ablation dose (72.4% and 76.5% respectively). Successful complete ablation post three doses of I131 (total dose of 160 mCi of I131) was achieved in 364 patients (97.8%).(table 1).

Conclusions:

Comparable successful complete ablation outcome rate between second and third ablation dose of 30 mCi of I131 in patients with papillary thyroid cancer, with no statistically significant difference.

References:

Suhail A.R. Doi, Nicholas J.Woodhouse, Lukman Thalib ,Adedavo Onitilo: Ablation of the Thyroid Remnant and I-131 Dose in Differentiated Thyroid Cancer: A Meta-Analysis RevisitedClin Med Res. 2007 Jun; 5(2): 87-90.

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