

## Comparison of four different protocols of I-131 therapy for treating single toxic thyroid nodule

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[View references \(↗\)](#)

### Abstract

**Objective** To compare low and high doses as well as fixed and calculated doses of I-131 in treating toxic thyroid adenoma. **Methods and patients** In a prospective study, patients with hyperthyroidism and a single hot thyroid nodule and 24-h radioactive iodine uptake of more than 20% were randomly treated with one of four protocols: fixed low dose (FLD, 481 MBq), fixed high dose (FHD, 832 MBq), calculated low dose (CLD, 2.32-2.70 MBqXg), and calculated high dose (CHD, 6.66-7.4 MBq/g). The patients were asked to visit the endocrinologist 2 and 6 months after treatment and every 6 months thereafter. Clinical exam and laboratory tests were done in all patients during each follow-up. A curative effect was considered as absence of thyroid stimulating hormone suppression (thyroid stimulating hormone > 0.3). An analysis of variance test was used for comparison of groups. **Results** 97 patients completed the follow-up, eight male, 89 female, with a mean age of 43.3 years (SD= 12.4) and mean 24-h radioactive iodine uptake values of 48.07% (SD = 14.07). No significant difference was noted in the four groups regarding age, sex ratio, thyroid uptake, and thyroid weight. About 10 months after therapy, cure of hyperthyroidism was higher in CHD group compared with other groups. Hypothyroidism was significantly higher in CHD and FHD groups compared with CLD and FLD groups in all follow-ups. No significant difference was noted in the cure of hyperthyroidism between CLD and FLD groups. Mean radioiodine dose administered in calculated groups was significantly less than fixed dose groups. **Conclusion** CHD protocol is preferable in old patients with toxic adenoma whereas CLD is more appropriate in young patients. © 2009 Wolters Kluwer Health|Lippincott Williams & Wilkins.

### Author keywords

Radioiodine; Thyroid nodule; Thyrotoxicosis; Toxic adenoma

### Indexed Keywords

**EMTREE drug terms:** iodine 131; pertechnetate acid tc 99m; thiamazole; thyrotropin

**EMTREE medical terms:** adult; article; clinical examination; clinical trial; controlled clinical trial; controlled study; drug dose comparison; drug megadose; drug uptake; female; follow up; human; hyperthyroidism; hypothyroidism; laboratory test; low drug dose; major clinical study; male; practice guideline; prospective study; randomized controlled trial; thyroid adenoma; thyroid nodule

**MeSH:** Adult; Dose-Response Relationship, Drug; Dose-Response Relationship, Radiation; Drug Administration Schedule; Female; Humans; Iodine Radioisotopes; Male; Radiopharmaceuticals; Thyroid Nodule; Treatment Outcome

*Medline is the source for the MeSH terms of this document.*

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