

Successful Ablation of Thyroid Remnants Can Be Achieved with Two 20 mCi (740 MBq) Doses of ¹³¹I

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ANALYSIS AND COMMENTARY ● ● ● ● ●

The success of the 20 mCi (740 MBq) ¹³¹I ablation is probably attributable to the completeness of surgery. This is indicated by the stimulated Tg being <10 ng/ml at the time of the first ablation dose. The additional success of the second minidose is its administration without prior ¹³¹I diagnostic scan that could cause stunning of the tumor tissue and impair uptake of the treatment dose.

In recent years, there has been a trend to reduce the ablative dose of ¹³¹I to 30 mCi or even 50 mCi, doses that were once commonly used in the United States in order to avoid the high cost of hospitalization for the therapy. A study of 555 patients given doses of 15 to 50 mCi (in groups with progressive 5 mCi increments) for ablation in India showed that a dose of at least 25 mCi was equally as effective as higher doses (1). In a comparison of 30 mCi and 100 mCi ¹³¹I for ablation, the success rates were similar, but the higher dose caused more radiation thyroiditis (2). In addition, it

is well-established that the incidence of dry mouth and lacrimal-duct obstruction increase with increasing doses of ¹³¹I, so lower doses cause fewer adverse reactions.

A criticism of the ablation method used in this study is that it requires two sets of rhTSH injections, which increases the cost and inconvenience to the patient, but one could argue that a stimulated measurement of Tg and a follow-up scan should be performed in follow-up for any ablation protocol.

In evaluating this retrospective study, it is difficult to avoid the conclusion that many of these patients classified as pT1 with no evidence of nodal disease would not be treated with ¹³¹I ablation at the current time because of a lack of evidence of efficacy in these patients who have an excellent prognosis. Nevertheless, when a low-risk patient is treated, a low dose is likely to be effective, as indicated by this study.

— Jerome M. Hershman, MD

References

1. Bal CS, Kumar A, Pant GS. Radioiodine dose for remnant ablation in differentiated thyroid carcinoma: a randomized clinical trial in 509 patients. *J Clin Endocrinol Metab* 2004; 89: 1666-73.
2. Cherk MH, Kalff V, Yap KS, Bailey M, Topliss D, Kelly MJ. Incidence of radiation thyroiditis and thyroid remnant ablation success rates following 1110 MBq (30 mCi) and 3700 MBq (100 mCi) post-surgical ¹³¹I ablation therapy for differentiated thyroid carcinoma. *Clin Endocrinol (Oxf)* 2008; 69:957-62. Epub April 12, 2008.