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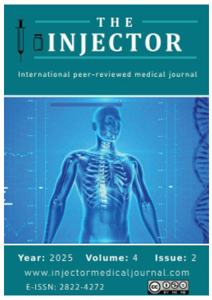

Letter to the Editor

Optimal fixed dose of radioactive iodine in the treatment of Graves' disease: 10 mCi or ≥15 mCi?

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Dear Editor,

Graves' disease remains a prevalent cause of hyperthyroidism worldwide, with radioiodine (RAI) therapy being a widely accepted definitive treatment. In recent years, interest in fixed-dose RAI regimens has been increasing, rather than applications based on dosimetry calculations (1). Based on current evidence, I would like to highlight the clinical advantages of the ≥15 mCi dose over the lower doses like 10 mCi in achieving treatment success and minimizing relapse.

A growing body of literature now supports the use of higher fixed doses for better efficacy. For instance, Lewis et al. demonstrated in their studies that fixed-dose regimens of around 15 mCi, slightly exceeding the standard dose, were associated with improved outcomes, and they highlighted that this strategy might be especially advantageous in patients with markedly elevated baseline fT4 levels (2). Muhleman and colleagues, in a recent retrospective study, demonstrated that doses of approximately 15 mCi administered to patients with Graves' disease could achieve high treatment response rates without the need for additional procedures such as RAI uptake measurements during patient planning (3). Jeong et al. suggested that administering a fixed RAI dose of at least 15 mCi to patients with Graves' disease who have larger goiters (≥33 mL) is necessary to achieve optimal treatment outcomes (4). In a prospective study conducted by Kanokwongnuwat and colleagues, it was demonstrated that Graves' disease patients receiving 20 mCi of RAI therapy achieved significantly more remissions and reached remission in a shorter time compared to patients receiving 10-15 mCi doses. Additionally, no significant difference was observed between the two dosage regimens in terms of adverse effects (5). Repeated treatments not only delay disease control but also increase total healthcare costs and patient anxiety. A one-time, effective doses like ≥15 mCi avoids these pitfalls. Large thyroid volume, elevated pre-treatment TRAb levels, high fT4 levels at diagnosis and a prolonged history of antithyroid medication use are among the leading causes of RAI treatment failure (6,7,8).

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In light of the above, particularly in this subgroup of patients who are more likely to experience treatment failure, I advocate for the routine consideration of ≥15 mCi (between 15-20 mCi) dosage as the standard fixed dose in patients with Graves' disease. The evidence suggests that this approach is more effective, reliable, and ultimately safer in the long term.

Keywords: Graves' disease, fixed-dose regimen, radioactive iodine theraphy.

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