Reviewer’s report

Title: Radioiodine treatment for Graves’ Disease: a 10-year Australian cohort study

Version: 0 Date: 10 Oct 2018

Reviewer: Rachel Crowley

Reviewer’s report:

This is a report of the authors' experience with I131 for the definitive treatment of Graves' thyrotoxicosis. The subject is not original but such reports are important clinically, for counseling patients referred for I131 and for comparing the performance of I131 services between centres.

The paper is well-written and clear but I would like to see a few minor changes.

Introduction

1. Generally glucocorticoid prophylaxis is not recommended for all smokers (or high TRAb titre patients), suggest review the sentence starting on line 82.

Methods

2. How was thyroid eye disease defined and classified?

3. What was the fixed dose regimen? (a range is quoted in Results)

4. What I131 preparation was used?

5. Data do not look normally distributed - quoted SEMs look odd. Suggest look at medians and 95% CI might be more useful to describe data.

Results

6. What was the adverse reaction to anti-thyroid drugs in 29 patients?

7. I note a very long duration of ATD therapy in some patients, suggest comment on this and see point 5 above

8. Mean TRAb and mean time to development of hypothyroidism - see point 5 above

Discussion
9. Suggest develop the discussion on measurement of TRAb titre pre-I131 - would the authors recommend this, based on their findings? With a larger number it might be interesting to see the relative impact of TRAB titre at diagnosis and then a long course of anti-thyroid drugs - it may not be possible to get a meaningful analysis with these numbers.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Acceptable

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