Reviewer's report

Title: Is annual surveillance of all treated hypothyroid patients necessary?

Version: 1 Date: 15 December 2006

Reviewer: john walsh

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General
The authors set out to demonstrate that 18 monthly testing of TFTs is as effective as 12 monthly testing in patients on thyroxine replacement. Intuitively I expected this to be true, but in fact they show the opposite: more abnormal tests were found (prompting dosage adjustment) in the group tested every 12 months. Despite this, the authors cling to their hypothesis, resorting to subgroup analysis to find a group of patients who can safely be tested every 18 months. To my mind, their data support the opposite conclusion to the one they have made.

(It might just be possible for their conclusion to stand if they demonstrate that, in the group aged < 60y, on T4 dosage 100-150 mcg/day, the proportion of abnormal tests recorded with 18 monthly testing is similar to that seen with 12 monthly testing, but those data are not given. I still suspect the obvious conclusion to be drawn is the one above).

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. What was the method used for TFTs and what were the laboratory reference ranges? Was it the same method throughout the study period? What was the lower limit of the TSH reference range and was it the same as the cut-off which prompted dosage adjustment?
2. On page 5, "suppressed" TSH should be defined (i.e. below the level of assay detection, below 0.1 mU/L, or below the lower limit of the reference range).
3. If cost containment is the issue, why do the authors measure fT4 rather than TSH alone?
4. Page 6, para 2 and Table 2: since the groups are of unequal size, the mean number of tests per person would be a helpful addition. What does the term "mean" in Table 2 refer to?
5. Page 7, para 1. The proportion of abnormal tests which prompted dosage adjustment should be given for both groups.
6. Do the authors know if their patients had TFTs checked apart from the occasions on which the registry dictated it (ie did patients' GPs check TFTs independent of the register system)? They might find that the 18 month group had more "off-protocol" testing which negate the cost savings with this strategy.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. There are numerous typos, eg page 9 "thyroid; the first authors' names in refs 4 and 9; "thyrotropin" in ref. 6; "consensus" in ref. 9

Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because scientifically unsound

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests