Reviewer's report

Title: Treatment of hyperfunctioning thyroid nodules by percutaneous ethanol injection: 2-year follow up

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Reviewer: Prof Fabio Monzani

Level of interest: A paper of limited interest

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Larijani et al. describe the efficacy and safety of percutaneous ethanol injection therapy of hyperfunctioning thyroid nodules. They carried out the study on 35 patients followed up to 2 years (15 of them) and conclude that ethanol injection therapy is an effective alternative to surgery and radioactive iodine in the treatment of autonomous thyroid nodules, both toxic and pretoxic. As the Authors write this technique has been already used by over than 10 years and the results obtained has been described in several papers.

Compulsory revisions:

Major points
1. This data partly disagree with previous studies since the Authors obtained excellent results despite the volume of the nodules and thyroid status: see for example the Italian multicenter study by Lippi et al., JCEM 1996, which should be discussed.
2. Are the three cases with persistent TSH suppression among single nodules or multinodular goiters? What was the volume of these nodules? What was pretreatment thyroid status?
2. The Authors say that PEI was stopped when thyroid hormone level returned within the normal range. How many days after the last PEI session they performed thyroid function tests? What side effect was so important to induce PEI discontinuation? Generally fibrosis is evident some weeks (months) after PEI so, it seems puzzling that "PEI could not be performed because of nodule fibrosis".
3. What is the mean number of PEI session performed? Since the Authors say that injected 0.1 ml of ethanol per ml of nodule volume and, that they injected up to 10 ml of ethanol in a single session they treated at least one nodule of 100 ml in volume. What was the outcome of such a nodule? What was pretreatment thyroid status of the patient?

Minor points

1. In the abstract section the Authors report of 2 cases of vocal cord palsy while, in the discussion section (page#9) they describe one case: what is the real number of such a side effect?
2. The Authors should report that they measured total serum T3 as well as total T4. The kit (along with the dispensing Corporation) used for performing thyroid hormone and TSH measurements should be described and, normal ranges should be reported in the Methods section.
3. Statistical analysis: linear regression analysis should be added among those used by the Authors. The definition of complete response should be described in other section (Patients and Methods or Results).

Competing interests:

None declared.