

Peer Review File

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Reviewer A

1. Why the same needle gauge was used over 18 years, was a consideration given to a use a smaller needle?

As mentioned in the text, knowing that the insufficiency rate was less than 10% with the 22 G needle, we were happy with the technique. Although it is outside the scope of the paper, we know that the insufficiency rate outside our department by non-endocrine surgeons who use smaller needles is higher. Therefore, we did not consider changing our technique.

2. Patient positioning?

The patients were positioned on the exam table in a semi Fowler position, with the neck extended and the head and torso raised to 30 degrees. We have added this info to the text.

3. Local anesthetic - used or not?

A local anesthetic was not used for the majority of FNAs.

4. 100% success, or procedure ever abandoned? Any complications - vasovagal etc.?

The procedure was not abandoned in any patient. As mentioned in the text, 2 patients developed bleeding into the biopsied nodule. None of these patients required emergency surgery, but their thyroid surgery date was moved up. A minority of patients developed a vasovagal symptom, without any worsening sequelae, but we did not document these events. Therefore, unfortunately, we will not be able to give the exact number of these patients.

5. Slides sprayed - were smears prepared?

Yes, we added this info to Methods.

6. Learning curve for surgeons - how many procedures before they hit insufficiency rate of <10%?

We have looked into this. All surgeons, except for one, was trained at the Cleveland Clinic Endocrine Surgery Department. All of these surgeons stayed under 10% of insufficiency rate, suggesting this technique was mastered in fellowship. One surgeon who did the endocrine surgery training elsewhere, the initial insufficiency rate was 12% in the first 100 biopsies, but dropped to 6% in the second 100 FNAs, suggesting it takes about 100 FNAs to optimize efficacy. We have added these figures and comments to the manuscript.

Reviewer B

1. It would be interesting to see the yearly or quarterly sufficiency rate of individual surgeons to learn about the learning curve of this procedure relative to their experience. A figure with that information would be appropriate. How long did it take the fellows to reach the sufficiency rate of the senior author?

We have added this information to the manuscript. We did not capture the efficacy of the fellows, but depicted in detail the learning curve for each staff surgeon, as explained above. The learning curve was 100 FNAs and we have added this information to the manuscript.

2. A recent publication showed there are inter-observer differences in the evaluation of thyroid nodules between cytopathologists. This paper should also be cited. (Differences in cytopathologist thyroid nodule malignancy rate. *Cytopathology*. 2020 Jul;31(4):315-320. doi: 10.1111/cyt.12841. PMID: 32333479).

We have cited this paper in the manuscript. At our institution, the thyroid FNAs are reviewed as a group and not by individual cytopathologists. We have also added this detail to the manuscript.