Peer Review File

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Reviewer A

The authors report their surgical isthmusectomy for management of a 48-year-old female with an isolated nodule in the isthmus of the thyroid gland. This surgical endeavour was purely for cosmetic purposes and patient preference as the nodule was benign. The authors conclude that a thyroid isthmusectomy is a considerably safer surgical option for patients presenting with a benign isthmus nodule. They hope this report will contribute to the surgical armamentarium of thyroid surgeons and their judicious use of a thyroid isthmusectomy.
Minor comments:
1. Although there are currently no published guidelines describing a surgical approach to solitary nodules in the isthmus of the thyroid, thyroid isthmusectomy is a commonly performed procedure for thyroid surgeon, especially for the management of benign isthmus nodule. In the discussion, the author should highlight the importance of removing the pyramidal lobe (Figure 4d-f) during isthmusectomy to reduce the difficulty of performing completion thyroidectomy in the future.

Reply 1. I will emphasize the importance of the pyramidal lobe excision in the discussion

so as to reduce the difficulty of performing a completion thyroidectomy.

Changes in the text: Line 91-93

2. In the discussion, line 127. “The controversy arises in performing an isthmusectomy for a malignant nodule (6, 11).” There are many updated references that can be considered, i.e. 1. Isthmusectomy in selected patients with well-differentiated thyroid carcinoma. Head Neck. 2020;42(1):43–49. doi:10.1002/hed.25968. and 2. Investigation the Role of Thyroid Isthmusectomy for Solitary Isthmic Papillary Thyroid Carcinoma.J Invest Surg. 2020 Apr 15:1-2. doi: 10.1080/08941939.2020.1751348. Online ahead of print. PMID: 32290776

Reply 2. I have inserted the first recommended reference as my reference 11 and removed my original reference 11.

Changes in the text: line 146 -148

I have also made the requisite changes to the references (et al in red) and removed reference 12 as it was the same as reference 1 .

Reviewer B

Major point

1. The indications for surgery in this case were as follows: (1) a tendency toward enlargement of the nodule, (2) persistent hyperthyroidism, (3) location of the nodule in the isthmus, and (4) desire for surgery.

If the patient's reason for the surgery was cosmetic, wouldn't endoscopic surgery be the best option (and should have been mentioned as an option). and if it was not possible for your institution to perform endoscopic surgery, do you think it would have been optimal in this case if it had been possible? Please discuss this issue.

And please refer to the following two references.

1) Tartaglia F, et al. Minimally invasive video-assisted thyroidectomy and transoral video-assisted thyroidectomy: A comparison of two systematic reviews. J Min Access Surg 2020;16: 315-22.

2) Shimizu K, et al. Video-assisted neck surgery (VANS) using a gasless lifting procedure for thyroid and parathyroid diseases: "The VANS method from A to Z". Surg Today. 2020 Oct;50(10):1126-1137.

Thank you for the opportunity to respond to the reviewer`s comments.

We do not have the facilities for endoscopic surgery at my hospital. As far as I am aware this type of thyroid surgery is not carried out in Canada.

Even in the articles mentioned above there is no case report of an endoscopic thyroid isthmusectomy.

In an ideal environment I think it would have been an ideal option as this surgery was undertaken solely for cosmetic reasons.

2. Basically, there is an indication for surgery in this case. The result of US and FNAC examinations indicate that the tumor would be most likely benign, so the operation procedure is reasonable. However, was it necessary to perform a rapid intraoperative pathological diagnosis? My opinion is No. Because the reason is that it is sufficient to remove only the mass in the isthmus through a short time and small incision. In addition, if there is a possibility of malignancy, we can assume that it is follicular carcinoma, but in this case, malignancy can only be diagnosed by postoperative pathology, so there is no need for intraoperative consultation.

I did not perform a rapid intra-operative pathological diagnosis as we do not have that facility at our hospital. Pathology confirmed the benign nodule (line 68/69) was only done after the surgery.

3. Please include the US images in Figure. And then, describe the results of FNAC in detail. I think the result is most likely a follicular tumor. The result of cytology is an important part of the preoperative examination, but why was it done in only one puncture? In other words, why wasn't it performed twice?

I do not have access to the US images. The patient refused a second FNAC as she was quite anxious and just wanted the mass to be excised.

4. If the nodule was a follicular tumor, it could have been a functional nodule.
It is true that radiological imaging is not the Gold Standard, but in this case, I believe that scintigraphic examination is essential preoperatively.
This was a benign cyst as borne out by the pathology. She was also biochemically euthyroid prior to surgery. She had no clinical indication for scintigraphy.
The imaging on CT scan clearly shows a cystic type of nodule which is not
that of a functional nodule hence we did not think there was a need for a scintigraphic evaluation.

5. Why was the patient experiencing dyspnea in the supine position before surgery?
We consider the possibility that the patient had heart failure due to hyperthyroidism. Please examine the blood and imaging data to make a differential diagnosis.
Her blood results were normal (TSH) and her chest examination was clear.
The symptoms abated with surgery which points away from cardiac failure.

6. As for the last sentence in the conclusion, this paper is only a case report of a benign isthmusectomy, and unfortunately does not contribute anything new to our knowledge. Therefore, please delete the last sentence.
I have highlighted the sentence in yellow and marked it for deletion.

7. Gui Z described the retrospective study following various types of surgery in patients with Papillary Thyroid Microcarcinoma (PTMC) of the thyroid isthmus. These findings showed that for patients with PTMC of the thyroid isthmus, and there was no significant difference between the 3 types of thyroid surgery; isthmusectomy, unilateral lobectomy, and total thyroidectomy. Please refer to the following reference.
3) Gui Z, et al. Comparison of Outcomes Following Thyroid Isthmusectomy, Unilateral Thyroid Lobectomy, and Total Thyroidectomy in Patients with Papillary Thyroid Microcarcinoma of the Thyroid Isthmus: A Retrospective Study at a Single Center. 2020 Dec 22; 26.
Even Gui et al admits that his number of cases are too small and he has a short term follow up. It was also a retrospective study. His findings of surgery concordance refers to tumours less than 10 mm mainly.
He also mentions that to date the ATA guidelines for differentiated thyroid isthmus cancer
Has not changed.

Minor point
8. Fig.#1: there is no yellow arrow.
9. Combine Fig.#1 and Fig.#2 into a single Fig.

Done and the figure legend has been modified as well.