Peer Review File

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Dear editors:
Thank you for the time and effort you have spent reviewing our manuscript. We revised our manuscript carefully in view of your comments. This resubmitted manuscript has been improved as described in our point-by-point responses to the reviewers' comments below; all revised content is highlighted in red in our manuscript.

Reviewer A

This is a case report of a PTC patient who underwent open completion thyroidectomy and lateral neck dissection a year after endoscopic lobectomy.

1. Introduction, page 2, Line 9-13. "The anterior neck area is dissected through the anterior surface of the pectoralis major muscle, the sternocleidomastoid muscle (SCM) is dissected longitudinally between its sternal head and clavicular head, the strap muscles are dissected laterally, and the omohyoid muscle and internal jugular vein (IJV) are also exposed."
Case report, page 3, Line 11-14. "The SCM was dissected longitudinally between its sternal head and clavicular head to the level of annular cartilage superiorly and the level of the clavicle inferiorly and the sternal head of the SCM was elevated by the retractor to expose the strap muscles."

Could the authors explain why the thyroid was exposed between the sternal head and clavicular head of SCM? The original transaxillary endoscopic approach is performed through the anterior border of the SCM (Ikeda Y, Takami H, Sasaki Y, Kan S, Niimi M. Endoscopic neck surgery by the axillary approach. J Am Coll Surg. 2000;191(3):336-340.) And most institutions are following the Ikeda's approach when they perform the transaxillary endoscopic thyroidectomy.
I think that adhesion to the IJV would have been avoided if the authors had performed the original transaxillary endoscopic approach. At least, the approach between the sternal head and clavicular head should be avoided for patients with PTC and MTC. These thyroid carcinomas have the risk of lateral neck dissection at the time of recurrence. the approach would be acceptable only if the lesion is diagnosed as a benign tumor or follicular tumor.
Response: The thyroid was exposed between the sternal head and clavicular head of SCM as described by Kim et al (Single-Incision, Gasless, Endoscopic Trans-Axillary Total Thyroidectomy: A Feasible and Oncologic Safe Surgery in Patients with Papillary Thyroid Carcinoma, J Laparoendosc Adv Surg Tech A, 2017). Additionally, we have reported an NFSSH approach (not free the superficial part of the sternal head of the sternocleidomastoid muscle) and a "point to line to surface" en bloc procedure through the exposure between the sternal head and clavicular head of SCM in our study. Relative reference has been added (see Ref 5). Meanwhile, the adhesion of the lateral compartment, including IJV or other tissues

cannot be avoided after the performance of transaxillary endoscopic thyroidectomy.

Reviewer B

This is a case report that described a female patient who underwent lateral neck dissection in a compartment that was previously violated by gasless transaxillary endoscopic hemi-thyroidectomy.

The case is well-presented. However, there are some questions need to be answered and concerns that should be addressed.

Major concerns
Most surgeons would expect some extent of adhesion during re-operative surgery. The author have shown the location and severity of the adhesion. Nevertheless, the key point (teaching point) of this case should be placed on how to manage this kind of patient in the future. I think readers would like to know the following:

1. Since the adhesion was only involved in the level III segment of the internal jugular vein, did the authors think that endoscopic or robotic lateral neck dissection is feasible for this patient?
Response: Endoscopic or robotic lateral neck dissection is not the first option for reoperation in our center.

2. In a retrospective study at Yonsei university medical center, 24 recurrent patients underwent robotic lateral neck dissection with or without completion thyroidectomy. All cases were performed successfully without open conversion. What is authors' comment about this article?

Robotic transaxillary lateral neck dissection for thyroid cancer: learning experience from 500 cases.
Surg Endosc. 2022 Apr;36(4):2436-2444. doi: 10.1007/s00464-021-08526-7.
Response: This study has not been published at the time we initially prepared our manuscript. The comment about this article has been added (see Page 6, line 14-17). Relative reference has also been added (see Ref. 19). In Kim's retrospective study, 24 recurrent patients underwent robotic lateral neck dissection with or without completion thyroidectomy. however, the adhesions in lateral neck compartment and the extent of effect on reoperation were not described.

3. In author's institution, do you perform endoscopic or robotic lateral neck dissection as a primary operation? If yes, which kind of approach do you perform: transaxillary,? BABA? Transoral? or total mammary areola approach?
Response: In our center, we perform robotic lateral neck dissection via BABA approach.

Published study: Preoperative application of carbon nanoparticles in bilateral axillo-breast approach robotic thyroidectomy for papillary thyroid cancer.
Gland surgery, 2021. DOI: 10.21037/gs-21-671

4. In the conclusion section, the author stated that gasless transaxillary approach should be performed in “strictly selected” patients with “adequate” preoperative assessment. Can the authors specify how “strict” is the selection criteria and what is the “adequate” preoperative assessment?
Response: In our previous published study, we have clarified that patients should be strictly selected with adequately preoperative assessment to fulfill with the inclusion and exclusion criteria. We think it is not suitable to include the inclusion and exclusion criteria in this case report, but the reference of our work has been added in the conclusion section (see Ref. 5).
Published study: Gasless endoscopic transaxillary thyroid surgery: CUSUM analysis of a single surgeon's experience from 105 preliminary procedures.
Surg Endosc, 2022. DOI: 10.1007/s00464-022-09273-z

Because in the present case, the initial staging of this patient is T1aN0b, which seems suitable for endoscopic surgery. In addition, the preoperative sonography was done and did not show evidence of lymph node metastasis. Did the author think that addition of computed tomography would be a more adequate preoperative assessment?
Response: Computed tomography is not routinely used for lateral neck compartment assessment in patients with negative ultrasound evidence.

Minor issues
1. In the present case, the time interval between the two surgeries was about one year. Do you think that the duration would have an impact on the severity of adhesion?
Response: It is difficult to quantitatively analyze the impact of duration on the severity of adhesion.

2. Is the use of anti-adhesive at the first time surgery beneficial?
Response: This need to be further studied.

3. In the manuscript (line 14-15, page 4), MRND including sublevel IIA, III, IV and VB were performed. However, the authors only reported the pathologic finding of level III (3/10) and level IV (2/8). What are the permanent sections of lymph nodes in level IIA and VB?
Response: The postoperative pathological results showed lateral lymph node metastasis in levels IIA (0/7), III (3/10), IV (2/8) and VB (0/6). This has been revised.

Reviewer C

The authors reported a case with PTC who underwent a revision operation due to recurrence in level III and IV lymph nodes after transaxillary endoscopic thyroidectomy. They found and stressed significant adhesion of the internal jugular vein and omohyoid muscle to the

surrounding tissue during the revision operation.
I have several criticisms.
1. Please, check the English grammar and expression used throughout this paper to ensure that it is clear and concise.
Response: We have examined and revised the manuscripts carefully. We also used a commercial English editing service from American Journal Experts (AJE) before submitting the manuscript. AJE Editing Certificate has been attached as a supplementary material.

2. Postoperative adhesions are usually encountered after surgery, even conventional transcervical thyroidectomy. Adhesion after transaxillary endoscopic thyroidectomy is, of course, a consideration when selecting this approach. Therefore, the result of this paper does not provide any further significant information to our knowledge.
Response: The procedure of this gasless transaxillary endoscopic thyroidectomy has been retrospectively reported by our group. In this study, we firstly reported a reoperation case. During the reoperation procedure, the IJV was carefully dissected, revealing that the adhesions were only involved in the segments of the IJV located in level III. The adhesions of the IJV and omohyoid muscle did not affect the dissection of level II& IV Lymph nodes and affected only the dissection of the medial margin of level III lymph nodes. We have provided this information to surgeons who may face the same situation. Overall, this is a depiction of a new complication for a new technique in thyroidectomy.

3. The authors need to change the title to more clearly express the purpose and results of the manuscript.
In order to more clearly express the purpose and results of the manuscript, we change the title to “Completion thyroidectomy and lateral neck dissection revealed adhesions in the lateral neck compartment after gasless transaxillary endoscopic thyroidectomy: A case report”.

Reviewer D

In this manuscript by Xia, Sun, and Li, the authors present the case report of a 51-year-old female who needed to undergo a completion thyroidectomy following an initial gasless tranaxillary endoscopic thyroid lobectomy. Notably, this report describes the dense adhesions to the internal jugular vein during the reoperation with lateral neck dissection, which were difficult to safely deal with even via an open technique. The authors do well to detail not only the index operation using the gasless tranaxillary endoscopic approach, but also describe the postoperative course, follow-up plan, workup for residual disease, and difficulty of the completion thyroidectomy. Then, the manuscript’s discussion explores some of the latest developments in extracervical thyroidectomy. Recent literature describing novel complications associated with these new approaches are cited, in order to justify the inclusion of this case report in the literature as it also describes a new complication. The report concludes with the summary that the gasless transaxillary approach to thyroidectomy causes adhesions in the lateral neck that make future lateral neck dissection difficult. Overall, this is a mostly well-written depiction of a new complication for a new technique in thyroidectomy, which warrants publication.

Major comments:

1. The conclusion of the abstract should be updated to more clearly indicate that the IJV was difficult to dissect upon reoperation following the index gasless transaxillary endoscopic approach.

Response: Conclusion of the abstract has been revised.

2. Is it usual for your patients to be admitted prior to any thyroid surgery? Or the just the transaxillary approach? There should be an explanation as to why the patient underwent thyroid lobectomy on the third day of hospitalization, as other institutions and countries have adopted an outpatient approach to this procedure (i.e. the patient undergoes surgery on the day of admission).

Response: Ambulatory endoscopic thyroidectomy (outpatient approach) has been reported in our center. For safety, the initial 30 cases of transaxillary approaches were performed via inpatient approach. Transaxillary thyroidectomy via outpatient approach has now also been performed in our center.

Published studies: Ambulatory Endoscopic Thyroidectomy via a Chest-Breast Approach Has an Acceptable Safety Profile for Thyroid Nodule. Front Endocrinol (Lausanne), 2021, 10.3389/fendo.2021.795627

Minor comments:

1. There is a typo in the first line of the abstract: “have” should read “has” (line 10). Likewise, line 11 should read “option” instead of “options”

This has been revised.

2. Page 3 line 3 “place” should be “…placed…”

This has been revised.

3. Page 5 line 25 “Track” should be “Tract”

This has been revised.

4. Page 6 line 23: did you intend to write that “the surface of the IJV was significantly adhered to… and IJV."?

Reponse: We intend to write that “the surface of the IJV was significantly adhered to… fibroadipose tissue." This has been revised.