

Article information: <https://dx.doi.org/10.21037/ga-24-164>

Reviewer A

Comment 1: In more demolitive surgery, interventions are affected by more severe complications. In the “discussion” section I suggest to better analyze this topic. Therefore, the following paper should be considered:

“Marotta V, Sciammarella C, Capasso M, Testori A, Pivonello C, Chiofalo MG, Gambardella C, Grasso M, Antonino A, Annunziata A, Macchia PE, Pivonello R, Santini L, Botti G, Losito S, Pezzullo L, Colao A, Faggiano A. Germline Polymorphisms of the VEGF Pathway Predict Recurrence in Nonadvanced Differentiated Thyroid Cancer. *J Clin Endocrinol Metab.* 2017 Feb 1;102(2):661-671. doi: 10.1210/jc.2016-2555. PMID: 27849428.”

“Gambardella C, Offi C, Patrone R, Clarizia G, Mauriello C, Tartaglia E, Di Capua F, Di Martino S, Romano RM, Fiore L, Conzo A, Conzo G, Docimo G. Calcitonin negative Medullary Thyroid Carcinoma: a challenging diagnosis or a medical dilemma? *BMC Endocr Disord.* 2019 May 29;19(Suppl 1):45. doi: 10.1186/s12902-019-0367-2. PMID: 31142313; PMCID: PMC6541563.”

“Gambardella C, Offi C, Romano RM, De Palma M, Ruggiero R, Candela G, Puziello A, Docimo L, Grasso M, Docimo G. Transcutaneous laryngeal ultrasonography: a reliable, non-invasive and inexpensive preoperative method in the evaluation of vocal cords motility-a prospective multicentric analysis on a large series and a literature review. *Updates Surg.* 2020 Sep;72(3):885-892. doi: 10.1007/s13304-020-00728-3. Epub 2020 Mar 2. PMID: 32124271.”

Reply 1: Dear Reviewer. Thank you for your thorough review. The suggested addition of this topic is crucial for our postoperative assessment, as understanding the correlation between BMI and thyroid cancer biology will enhance preoperative patient evaluation and mitigate surgical risks. We appreciate the references you shared; we have carefully reviewed the three articles and cited them in our discussion section. Your recommended citations have significantly enriched our manuscript. Thank you for contributing to the quality improvement of our paper.

Changes in the text: We added this topic in discussion (see Page 9-10, line 212-220).

(Our study revealed that patients with higher body mass index (BMI) face elevated risks of lateral neck lymph node metastasis and extrathyroidal extension, indicating potentially more complex surgical challenges. Therefore, comprehensive preoperative assessments are crucial to thoroughly evaluate their condition. Researchers have conducted numerous studies [34-36] on tumor diagnosis, vocal cord function assessment, and tumor recurrence risk to mitigate severe complications. Incorporating the latest research findings is paramount in developing preoperative assessment plans for high-BMI patients, enabling a comprehensive evaluation and effectively reducing surgical and treatment risks.

34. Marotta V, Sciammarella C, Capasso M, Testori A, Pivonello C, Chiofalo MG, Gambardella C, Grasso M, Antonino A, Annunziata A, Macchia PE, Pivonello R, Santini L, Botti G, Losito S, Pezzullo L, Colao A, Faggiano A. Germline Polymorphisms of the VEGF Pathway Predict Recurrence in Nonadvanced Differentiated Thyroid Cancer. *J Clin Endocrinol Metab.* 2017 Feb 1;102(2):661-671.

35. Gambardella C, Offi C, Patrone R, Clarizia G, Mauriello C, Tartaglia E, Di Capua F, Di Martino S, Romano RM, Fiore L, Conzo A, Conzo G, Docimo G. Calcitonin negative Medullary Thyroid Carcinoma: a challenging diagnosis or a medical dilemma? *BMC Endocr Disord.* 2019 May 29;19(Suppl 1):45.

36. Gambardella C, Offi C, Romano RM, De Palma M, Ruggiero R, Candela G, Puziello A, Docimo L, Grasso M, Docimo G. Transcutaneous laryngeal ultrasonography: a reliable, non-invasive and inexpensive preoperative method in the evaluation of vocal cords motility-a prospective multicentric analysis on a large series and a literature review. *Updates Surg.* 2020 Sep;72(3):885-892.)

Reviewer B

Comment 1: The manuscript lacks crucial details about the study design. The authors mention a "systematic review of historical case data" (Lines 74-76) but fail to specify which factors were included in the analysis. A comprehensive list of all clinical and pathological characteristics examined is essential.

Reply 1: Dear Reviewer, Thank you for your careful review. The inclusion of key details regarding the study design in the Methods section is critical for the overall integrity of the manuscript. We have therefore added these details as per your suggestion. We appreciate your contribution to improving the quality of our paper.

Changes in the text: We added the crucial details in methods (see Page 3, line 77-83). We collected basic patient information, including age, gender, BMI, preoperative thyroid function, preoperative parathyroid hormone levels, and presence of Hashimoto's thyroiditis. Our interest lay in exploring the biological behavior of BMI and PTC, as well as lymph node metastasis. Thus, we gathered pathological data from these patients. These data encompass multifocality, extrathyroidal extension, central compartment lymph node metastasis, and lateral compartment lymph node metastasis status.

Comment 2: The source and timing of data collection are unclear. If electronic health records (EHR) were used, the authors should specify when this information was extracted (e.g., at time of hospitalization, diagnosis, or surgery).

Reply 2: Dear Reviewer, Thank you for your meticulous review. The source and timing of data collection are crucial for the integrity of the entire manuscript. Therefore, we have incorporated key details regarding the source and timing of data collection in the Methods section. We appreciate your contribution to enhancing the quality of our paper.

Changes in the text: We added the source and timing of data collection in methods (see Page 3, line 73-77). We retrospectively collected clinical and pathological data from 1,067 consecutive inpatients who underwent thyroid surgery for PTC at Nanjing Drum Tower Hospital from June 2022 to December 2023. Seventy-four patients were

excluded based on exclusion criteria, leaving 993 patients for retrospective analysis of clinical data.

Comment 3: All abbreviations should be defined upon first use (Line 118).

Reply 3: Dear Reviewer, Thank you for your thorough review. Providing detailed explanations of abbreviations upon their first mention is crucial for reader comprehension. Therefore, we have expanded the abbreviations in the Results section of the manuscript. We appreciate your contribution to improving the quality of our paper.

Changes in the text: We added in results (see Page 5, line 122-124). (Interestingly, levels of thyroglobulin (TG) and thyroglobulin antibodies (TGAb) are also correlated with BMI, whereas other factors including thyroid function tests and age show no significant differences.)

Comment 4: Tables should include percentages alongside actual counts for categorical data.

Reply 4: Dear Reviewer, Thank you for your careful review. Percentages are crucial for visually representing differences between categorical variables. Therefore, we have incorporated percentages for categorical variables in Tables 1 and 2. We appreciate your contribution to enhancing the quality of our manuscript.

Changes in the text: We have modified our text as advised (see Page 5, line 125 and Page 6, line 148).

Comment 5: The overall presentation of results lacks proper scientific writing style and format. I recommend the authors review similar publications in the field to improve their presentation.

Reply 5: Dear Reviewer, Thank you for your thorough review. After carefully examining relevant literature in the field, we observed that the structure and format of most articles' results sections are more suitable. Therefore, we have revised the style and format of the Results section accordingly. We appreciate your contribution to improving the quality of our manuscript.

Changes in the text: We have modified our text as advised (see Page 4-7, line 116-161).

Comment 6: The discussion section requires substantial revision. Many claims are made without proper citation, undermining their validity. Each statement should be supported by relevant literature or clearly identified as the authors' own interpretation.

Reply 6: Dear Reviewer, Thank you for your thorough review. Proper citation is crucial for enhancing the effectiveness of the manuscript. Therefore, we have added additional references in the Discussion section to ensure scientific rigor in each part. We appreciate your contribution to improving the quality of our paper.

Changes in the text: We have modified our text as advised (see Page 8-10, line 165-234).

Comment 7: The manuscript would benefit from a thorough editing process to improve clarity, coherence, and scientific rigor throughout all sections.

Reply 7: Thank you for your careful review to enhance clarity, coherence, and scientific rigor across all sections. We have carefully revised the manuscript based on your previous feedback. We appreciate your efforts. Thank you once again.

Changes in the text: We have carefully reviewed Comments 1-6 and made thorough revisions to the manuscript accordingly.