



Incidence and risk factors of inadvertent parathyroidectomy during thyroid surgery: A single-center retrospective study

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ABSTRACT (upto 300 words)

Context: Thyroidectomy is considered a relatively safe surgery with morbidity of <5% when undertaken by experienced surgeons. Inadvertent parathyroidectomy (IP) means pathology report has found parathyroid tissue in the thyroid specimen, and it was reported to range from 2.9% to 31%.

Aims: The aim of this study is to measure the incidence rate and to evaluate the significant relationship between risk factors and IP during thyroid surgery.

Settings and Design: A retrospective chart review study was carried out in King Fahad Armed Forces Hospital, Jeddah, between June 2015 and December 2019. Subjects and

Methods: All consecutive patients undergoing unilateral or bilateral thyroidectomy were enrolled in this study. Histopathology reports were reviewed to identify the specimens that included parathyroid tissue and underlying thyroid disease, and these were compared to patients with no parathyroidectomy in terms of gender, pathological features, re-operation, Hashimoto thyroiditis, extrathyroidal extension, and central neck dissection. Statistical Analysis Used: Statistical analysis was carried out using the Statistical Package for the Social Sciences.

Results: Retrospective analysis of 181 consecutive thyroidectomy cases reveals that 34 (18.7%) patients had IP. Significant risk factors for IP

included extra-thyroid extension ($P = 0.008$), total thyroidectomy ($P = 0.017$), and Hashimoto thyroiditis ($P = 0.021$). Other risk factors, including gender, malignancy, central neck dissection, and re-operation, were not statistically significant in this study.

Conclusions: IP during thyroid surgery is not uncommon (18.7%). Total thyroidectomy, hashimoto thyroiditis, and extrathyroidal extension of the tumor were found to be significant risk factors. We recommend more meticulous intra-operative identification of parathyroid glands, particularly for patients with these risk factors.

OTORHINOLARYNGOLOGY

November 21-23, 2022 | Paris, France

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Dr. Abdulaziz Alanzi has graduated from College of Medicine at Imam Muhammed Ibn Saud University in 2016 with second-class honor. Five years later, he completed his Saudi Board of Otorhinology, Head & Neck Surgery at Saudi Arabia Joint Program. Currently, he is classified as an ORL Senior Registrar working at Second Health Cluster in Riyadh. He published four researches in areas of his interest including Rhinology, Facial Plastic Surgery, and Head& Neck Surgery.

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