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ORIGINAL SCIENTIFIC REPORT

Transoral Thyroidectomy: Initial Results of the European TOETVA Study Group

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Abstract

Background The aim of this study was to evaluate a new surgical technique by the European Transoral Endoscopic Thyroidectomy Vestibular Approach (TOETVA) Study Group.

Methods This study included 391 patients (47 [(12%]) male and 344 [(88%)] female) who had undergone endoscopic thyroid or parathyroid surgery via the vestibular approach between February 2016 and May 2022 at nine centers. The data were analyzed with regard to complications, surgery time and specimen retrieval.

Results Overall, 376 (96.2%) TOETVA and 15 (3.8%) transoral endoscopic parathyroidectomy vestibular approach interventions were performed with an average surgery time of 145 (± 61.2) minutes and 509 nerves at risk. The specimens were retrieved via a transoral vestibular and retroauricular approach in 66 (16.9%) patients and via a transaxillary approach in 8 (2%). Benign histology including Grave's disease was identified in 272 (69.6%) patients, 1 (0.3%) presented noninvasive follicular thyroid neoplasms with papillary-like nuclear features, and 103 (26.3%) showed differentiated thyroid carcinoma. Solitary parathyroid adenoma were removed in 15 (3.8%) patients. Conversion to open surgery was necessary in 13 (3.3%) and revision had to be performed in 2 (0.5%) patients. Transient recurrent laryngeal nerve palsy (RLNP) was present in 18 (4.6%) and permanent RLNP in 2 (0.5%) patients. Fifteen (3.8%) patients experienced transient hypoparathyroidism after thyroidectomy. No case of permanent hypoparathyroidism was observed. Postoperative surgical site infection occurred in 1 (0.3%) patient. Despite a higher rate of sensory and motor disorders and skin discoloration at discharge, permanent disorders were present in only 3 (0.8%) and 16 (4.1%) patients, respectively.

Conclusion Our results show that transoral endoscopic surgery, performed by experienced endocrine surgeons, is a safe alternative to conventional thyroid surgery.

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ORIGINAL SCIENTIFIC REPORT

Does Surgeon Volume Impact Morbidity Following Parathyroidectomy? A Study of 16,140 Parathyroidectomies from the UK Registry of Endocrine and Thyroid Surgery (UKRETS) Database

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Abstract

Background Outcomes in endocrine surgery have been shown to improve with surgeon volume. We aimed to study the effect of surgeon volume on morbidity following parathyroidectomy.

Methods UKRETS data from 2004 to 2019 was studied. Parathyroidectomies for primary hyperparathyroidism with complete data were included. Exclusion criteria were age <18 or >80 years; surgeons contributing <10 cases overall; and length of stay >28 days. Multivariable analysis was performed. Primary outcome was persistent hypercalcaemia; secondary outcomes were haemorrhage, length of stay, need for re-admission, post-operative hypocalcaemia, and need for calcium/vitamin D supplements to maintain eucalcaemia at 6 months.

Results 153 surgeons undertook mean 22.5 (median 17, range 2–115) parathyroidectomies/year. Persistent hypercalcaemia affected 4.8% (776/16140) overall; 5.7% (71/1242) in surgeons undertaking < 10 cases/year; 5.1% (3339/6617) for 10–30 cases/year; 5.0% (270/5397) for 30–50 cases; and 3.3% (96/2884) for >50 cases/year. High-volume (>50 parathyroidectomies/year) surgeons operated 23.4% (809/3464) of negative localisation cases compared to 16.4% (2074/12676) of positive localisation cases. Persistent hypercalcaemia was almost twice as common in image negative (7.9%) compared to image-positive (4%) cases. Persistent hypercalcaemia was significantly more likely to occur in the low volume (<10 parathyroidectomies/year) group than high volume (>50 parathyroidectomies/year), regardless of image positivity ($p = 0.0006$). Surgeon volume significantly reduced persistent hypercalcaemia on multivariable analysis (OR = 0.878, 95%CI 0.842–0.914, $p < 0.001$), along with age, sex, and positive localisation. BNE and re-operation significantly increased persistent hypercalcaemia. Post-operative hypocalcaemia occurred in 3.2% (509/16040) and was reduced with increasing surgeon volume (OR = 0.951, 95%CI 0.910–0.993, $p < 0.001$). Haemorrhage and length of stay were not significantly associated with surgeon volume.

Conclusion The incidence of persistent hypercalcaemia, post-operative hypocalcaemia, and persistent hypoparathyroidism decreased with increasing surgeon volume. The relative reduction in persistent hypercalcaemia with surgeon volume was similar in image negative and positive groups, but the absolute reduction was higher in image negative cases. Restricting image negative parathyroidectomy to high-volume surgeons could be considered.