

Transoral endoscopic thyroidectomy vestibular approach (TOETVA)

Tiroidectomía transoral endoscópica por abordaje vestibular (TOETVA)

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ABSTRACT

We report the first case in Paraguay of a right thyroid lobectomy performed via the TOETVA technique by a national surgical team. The patient was a 19-year-old female with a benign nodule measuring 37x19 mm. The procedure lasted 165 minutes, with no intraoperative or postoperative complications. Due to the specimen's dimensions, a minimal 1.5 cm submental incision was required. In this specific case, the technique proved to be feasible and safe, providing optimal aesthetic results.

Keywords: Scarless thyroidectomy; Transoral approach; Endoscopic surgery; Natural Orifice Translational Endoscopic Surgery (NOTES).

RESUMEN

Se reporta el primer caso en Paraguay de lobectomía tiroidea derecha mediante técnica TOETVA, realizado por un equipo nacional en una paciente de 19 años con un nódulo benigno de 37x19 mm. El procedimiento tuvo una duración de 165 minutos, sin presentar complicaciones transoperatorias ni postoperatorias. Debido a las dimensiones de la pieza, se requirió una incisión submentoniana mínima de 1.5 cm. En este caso específico, la técnica demostró ser factible y segura, ofreciendo resultados estéticos óptimos.

Palabras claves: Tiroidectomía sin cicatriz; Abordaje transoral; Cirugía endoscópica; NOTES.

INTRODUCTION

Conventional thyroidectomy has evolved toward minimally invasive techniques to improve aesthetic outcomes. Since the early experiences of Gagner¹ and Hüscher², remote approaches have been developed which, although effective, leave peripheral scars³. The transoral approach (TOETVA), standardized by Anuwong in 2015⁴, emerges as a surgical option that uses natural orifices (NOTES) to avoid visible cervical scars. The aim of this work is to report the first implementation of this technique by a national team; it should be noted that, although the approach and surgical dissection were performed entirely using the TOETVA technique, a minimal submental incision was required exclusively for the safe extraction of the surgical specimen due to its dimensions.

CLINICAL CASE

19 year old female patient with a right thyroid nodule measuring 37 × 19 mm (Bethesda II). Informed consent was obtained, and the protocol adhered to the principles of the Declaration of Helsinki.

Under general anesthesia with nasotracheal intubation, a transoral vestibular approach was performed using three ports (Fig. 1).



Figure 1. Incisions in the mucosa of the lower oral vestibule for trocar placement.

The subplatysmal space was created by means of hydrodissection and pneumodissection at 8 mmHg (Fig. 2).

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Figure 2. Placement of the three access ports (central 10 mm and lateral 5 mm).

A right lobectomy and isthmectomy were performed using the Ligasure system, achieving identification and preservation of the recurrent laryngeal nerve (*Fig. 3*).

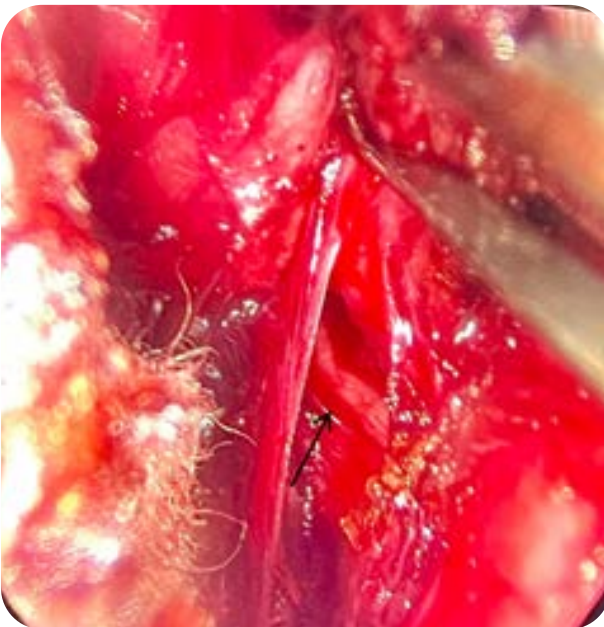


Figure 3. Endoscopic identification and preservation of the right recurrent laryngeal nerve (arrow).

Due to the specimen volume (4.5 cm), an accessory 1.5 cm submental incision was performed for atraumatic extraction.

The operative time was 165 minutes with minimal bleeding and satisfactory hemostasis (*Fig. 4*).

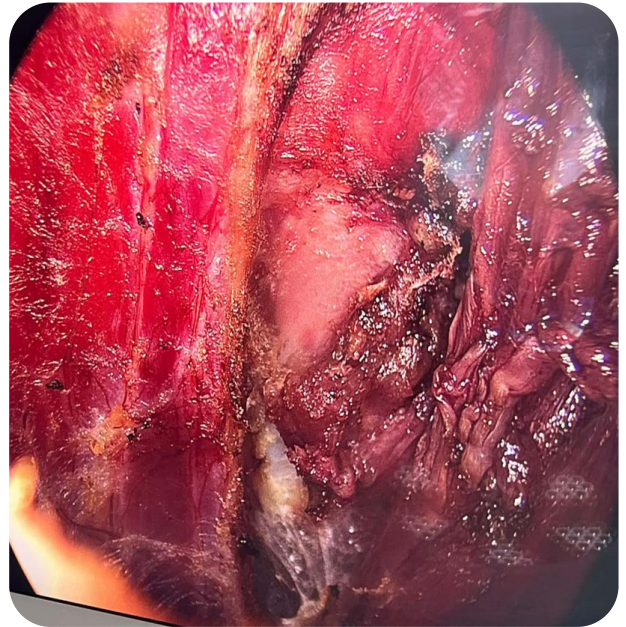


Figure 4. Thyroid bed after lobectomy; complete hemostasis is observed with the thermal sealing system.

There were no neural or biochemical complications. After mild edema controlled with cryotherapy (*Fig. 5*), the patient was discharged within 24 hours.



Figure 5. Postoperative day 3 follow up: mild cervical edema and minimal 1.5 cm submental incision.

At the 10 day follow up, an optimal aesthetic result was confirmed, with no visible scars on the neck (*Fig. 6*).



Figure 6. Ten day follow up: resolution of edema and aesthetic outcome without visible cervical scars.

The pathological study of the surgical specimen, corresponding to the right lobe of the thyroid gland, reported a solitary papillary hyperplastic nodule of benign nature. Microscopic analysis revealed no atypia or evidence of malignant neoplastic process in the evaluated material, further confirming a surgical margin free of lesion. This histopathological finding, together with the favorable clinical course, allowed the patient's definitive discharge with an excellent prognosis and satisfactory aesthetic results.

DISCUSSION

This case is original for being the first performed by national

surgeons and for the successful resolution of a large diameter nodule. Unlike techniques such as Minimally Invasive Video Assisted Thyroidectomy (MIVAT)⁵, which requires a cervical incision, TOETVA offers superior remote access. The limitation posed by specimen size for transoral extraction was resolved with a minimal submental port, a maneuver that did not compromise aesthetics and ensured anatomic and pathological integrity. This experience demonstrates that the technique is reproducible and safe in our setting⁶⁻⁸. This initial experience represents a significant advance in the incorporation of minimally invasive techniques in endocrine surgery in the country.

CONCLUSION

The initial implementation of the TOETVA technique in our setting confirms its technical feasibility, having been carried out in this case without perioperative complications. The results obtained demonstrate that the transoral approach constitutes a valid alternative that meets current aesthetic demands without compromising patient safety. This experience lays the foundation for the progressive integration of highly complex minimally invasive procedures into national surgical practice, optimizing recovery and aesthetic satisfaction for patients.

CONFLICT OF INTERESTS

Authors declare no conflict of interests.

AUTHOR'S CONTRIBUTION

LMBCO: Conceptualization and manuscript drafting.

MDVA y ELB: Contribution to methodology and execution of the surgical procedure.

MFB y LDAB: Institutional supervision and final approval.

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