

# Transoral Endoscopic Thyroidectomy Vestibular Approach (TOETVA)

**Alok Gupta\***

<sup>1</sup>Department of General & Minimal Access Surgery, Max Hospital, Gurugram, Haryana

## Correspondence:

**Alok Gupta**

E-mail: [alok.kumargupta@maxhealthcare.com](mailto:alok.kumargupta@maxhealthcare.com)

**Abstract:** Transoral endoscopic thyroidectomy vestibular approach (TOETVA)<sup>1</sup> is a novel procedure with advantages like no visible scar, minimal invasive dissection and access to the whole of the thyroid gland. A 36-year-old female patient presented with a complaint of swelling of the right thyroid gland for the last 2-3 months. FNAC was suggestive of a benign lesion. Hence, a diagnosis of a right thyroid nodule was made and the patient underwent a transoral endoscopic right hemi thyroidectomy vestibular approach (TOETVA). The postoperative period was uneventful. HPE was reported as a Colloid Nodule. TOETVA is a good approach for benign thyroid nodules in patients who choose to avoid a neck scar. TOETVA provides patients with good cosmesis and is also safe.

## Introduction

Thyroid surgery is done by both open and minimally invasive (endoscopic or robotic) methods. However, the issue of scar remains in both methods. Endoscopic methods provide an effective alternative by shifting the scars to the breast or axilla. TOETVA was first described in 2016<sup>1</sup> it is a scarless surgery where no outwardly visible scars are present, hence giving better cosmesis. Here, we present a case of a 36-year-old female who underwent TOETVA for a benign right thyroid nodule.

## Operative procedure

The patient was supine with neck extended position, head up and shoulder roll placed beneath. Antibiotic prophylaxis was given. Parts painted and draped. A lower vestibule incision was made 12 mm transversely and blunt dissection and hydro dissection were done subplatysmal. Plane created, 12 mm and 5 mm ports were placed on each side of the first port (slightly anteriorly and not beyond canine tooth to preserve mental nerve). The subplatysmal flap was raised and a midline incision was made to separate strap muscles over the right side from the right lobe of the thyroid gland. The suture was taken from the right strap muscle for retraction via skin. Sub capsular dissection was done and the right thyroid lobe was mobilised. 5X4 cm right thyroid swelling was present. Isthmus divided. During

dissection, there was a puncture of thyroid swelling and cystic brown-coloured fluid came out; it was aspirated and sent for culture and sensitivity test. The right thyroid lobe was removed after dividing the superior pole and inferior pole vessels while preserving the recurrent laryngeal nerve, the external branch of the superior laryngeal nerve and the parathyroid gland. Haemostasis secure. A flat drain was placed. Port closure was done after insufflation. Pressure dressing was applied. The duration of surgery was three hours.

The post-op period was uneventful; the patient was discharged in a stable condition the next day.

## Discussion

TOETVA is a good approach for benign thyroid nodules in patients who choose to avoid a neck scar. Endoscopic thyroidectomy is novel and acceptable in patients with benign thyroid disease. There are direct (cervical-anterior or lateral) and extra cervical endoscopic procedures to have the thyroid exposed, but multiple small scars remain.<sup>2</sup>

Witzel first performed Transoral endoscopic thyroidectomy in 2008.<sup>3</sup> In 2018, Anuwong recently published a study comparing

outcomes between the TOETVA approach in 425 patients and the conventional open approach. The results revealed that TOETVA, with the potential for scar-free surgery, is a safe and effective procedure.<sup>4</sup> The new technique was also reported to have longer operative time but less postoperative pain than open techniques. The proportion of postoperative complications is similar to that of the open thyroidectomy.<sup>5</sup>

Besides TOETVA, which is indicated for benign tumours, this procedure works well for selected patients with thyroid cancer. Central lymph node dissection can be done safely by this technique. According to Anuwong et al., the current indications of the TOETVA are benign thyroid disease, Grave's disease limited to 10 cm in size and thyroid carcinoma with 1–2 cm nodule.<sup>5</sup>

In our case, we operated on a 5x4 cm benign right thyroid nodule using TOETVA. Operative time was three hours. The post-op period was uneventful. The patient was satisfied with the cosmesis and outcome.

## Conclusion

TOETVA provides patients with good cosmesis and is safe.

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