

POST OPERATIVE CARE FOR PATIENTS WITH TRANSORAL ENDOSCOPIC THYROIDECTOMY VESTIBULAR AT HANOI MEDICAL UNIVERSITY HOSPITAL

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Thyroid nodules, including both benign and malignant lesions, are the most common endocrine neoplasms. Most thyroid tumours are benign, with slow progression over time. Although surgery is the primary treatment method for benign thyroid nodules, the transoral endoscopic thyroidectomy vestibular approach (TOETVA) has recently gained popularity due to its higher probability of concealing scar. The study was conducted using a prospective descriptive method, with a convenient sample size. The study subjects were patients with transoral endoscopic thyroidectomy vestibular approach at the Department of Oncology and Palliative care, Hanoi Medical University Hospital from February to November 2023. Average age was 38.2 ± 9.0 years old; female accounts for 98.8%; the most common symptom in the study was neck tumour (64.2%); 92.6% of patients had palpable nodules clinically. Ultrasound showed 72.8% of patients with one tumour with an average tumour size of 26.9 ± 11.6 mm; the majority of patients have nodules ranked TIRADS 3 (69.1%). 64.2% of patients have moderate pain on the first day after surgery and 92.6% of patients had no pain on the 7th day post surgery; complications included 5 cases of laryngeal nerve damage, 2 cases of hypoparathyroidism and 1 case of mental nerve damage; 8 patients had skin numbness in the surgical area, 3 patients had limited swallowing. The average hospital stay was 5.2 ± 1.7 days; 80.2% of patients were satisfied with post-operative care. Research shows that TOETVA is a safe method with a small percentage of postoperative complications and brings satisfaction in the postoperative process.

Keywords: Benign thyroid nodules, TOEVA, postoperative.

I. INTRODUCTION

Thyroid nodules, including both benign and malignant lesions, are the most common endocrine neoplasms.¹ The American Thyroid Association (ATA) defines a thyroid nodule as a distinct lesion within the thyroid gland. They are radiographically distinct from the surrounding thyroid parenchyma.² Most thyroid tumours are benign, the malignant rate is only 4% - 6.5%, the risk increases with youth, family history of thyroid cancer and previous head and neck radiation therapy.³ Benign thyroid nodules

usually progress over a long period of time. A thyroid nodule may be discovered by chance by a clinician performing palpation during clinical examination. Most patients visited the hospital for a routine checkups and were asymptomatic.⁴ In recent times, thyroid nodules are being detected with increasing frequency. This is partly believed to be from the increasing use of diagnostic methods at the health facilities, especially ultrasound.²

Surgery is the main treatment method for benign thyroid nodules. Open surgery was the traditional approach but often left a permanent scar on the neck. Today, endoscopic thyroidectomy plays an increasingly important role. There are many applications of endoscopic thyroidectomy, as the surgery is performed

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in the axillary, breast, and chest areas etc. Recently, endoscopic thyroidectomy through the oral orifice has been thriving due to its higher probability of concealing scars.^{5,6} This innovation was first described by Anuwong in 2016 as transoral endoscopic thyroidectomy vestibular approach (TOETVA) with maximum cosmetic results.⁷

Although (TOETVA) had been performed more commonly in recent years. there is still no adequate studie addressing the postoperative care of this method. Therefore, we conducted this study to preliminarily evaluate the postoperative care outcomes of patients after TOETVA at Hanoi Medical University Hospital.

II. METHOD

Research subjects

81 patients with benign thyroid tumours, receiving TOETVA, at the Department of Oncology and Palliative Care at Hanoi Medical University Hospital from February 2023 to November 2023.

Inclusion criteria

Patients with benign preoperative fine needle aspiration results and postoperative

pathology; thyroid volume $\leq 45\text{ml}$ and diameter of the thyroid nucleus $\leq 6.5\text{ cm}$ in ultrasound.

Exclusion Criteria

Patients with thyroid cancer; history of previous surgery, or radiotherapy in the head and neck area; acute inflammation of the whole body, thyroid gland or oral cavity. Patients with general contraindications to surgery and anaesthesia resuscitation: abnormal coagulation function, chronic systemic disease, poor physical condition.

Research Design

Prospective study

Sampling

Convenience sampling on clusters of care. There were 81 patients who met the criteria.

Data collection and analysis

We collected patients by designing questionnaires. The process of data analysis was done by using SPSS software version 22.0

Ethic

We will present honest research results, even if the results are not as expected. We will ensure confidentiality of all patients' personal information in this study.

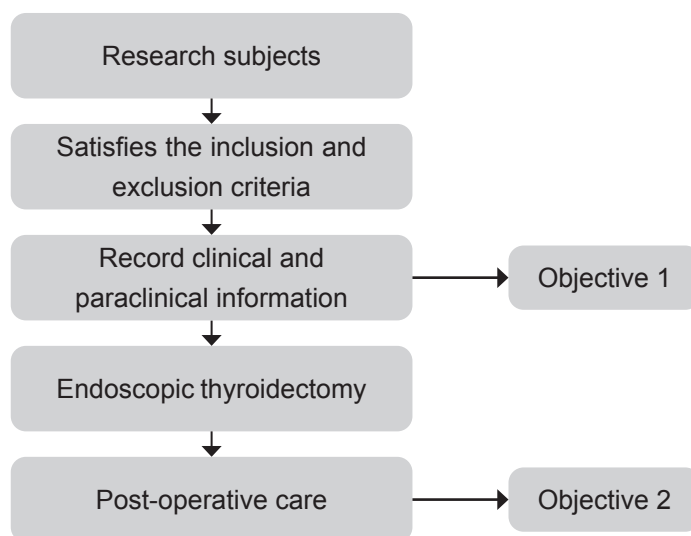


Figure 1. Research Process

III. RESULTS

1. General characteristics

The average age was 38.15 ± 9.01 years old. The youngest patient was 19 years old, and the oldest patient was 57 years old. The most common patient age group was 31-40 years old with a prevalence rate of 39.5%. Most patients were women, accounting for 98.8%, with only 1.2% being men. Most patients had no previous medical history, accounting for 77.8% of total patients. The number of patients with chronic thyroid disease but no treatment accounted for 21%. Only a very small number of patients had genetics and family members with the thyroid tumours (1.2%).

2. Clinical and subclinical

The most common symptom in the study

was neck tumour with 64.2% of total cases. Up to 30.9% of hospitalised patients had no symptom and tumour+detected through ultrasound health checks. After that, swallowing entangled occurred in 4 cases (4.9%).

Ultrasound detected 22 patients with 2 or more nodules, accounting for 27.2% of cases. Right and left lobe nodules had similar rates according to ultrasound surveys at 46.8% and 49.5% respectively. Meanwhile, nodules appeared very rarely in the isthmus with a rate of approximately 4%. The average nodule size was 26.9 ± 11.6 mm; the largest nodule was 59 mm and the smallest nodule was 8 mm.

3. Postoperative Care

Table 1. Postoperative pain levels

Pain Level	Day 1 (n = 81)	Day 4 (n = 81)	Day 7 (n = 81)
No pain	0	28	75
Mild	52	53	6
Moderate	29	0	0
Severe	0	0	0
Total	81	81	81

On the first postoperative day, most patients had pain. Mild pain was reported in 52 patients (64.2%) and moderate pain in 28 patients

(34.6%). By the 7th day after surgery, patients reported almost no pain at a rate of 92.6% with the remaining 6 patients only feeling mild pain.

Table 2. Postoperative complications

Complications	Number of patients	Percentage
Hoarseness	5	6.2
Hypoparathyroidism	2	2.5
Hematoma	0	0
Seroma	0	0
Numbness in the lower lip area	1	1.2
Infection	0	0

Hoarseness were the most common post operative complication, which was seen in 5 out of 81 patients (6.2%). The study recorded 2 cases of hypothyroidism accounting for 2.5%

and 1 case of lower lip numbness accounting for 1.2%. No infection, hematoma or seroma was recorded.

Table 3. Functional effects in patients after surgery

Functional Effects in Patients after Surgery	Number of patients	Percentage
Limit swallowing	3	3.7
Numbness in the neck area	8	9.9

Research noted that 8 patients had skin numbness in the surgical area, accounting for 9.9% of cases. Furthermore, 3 patients (3.7%) had limited swallowing.

The average hospital stay was 5.2 ± 1.7 days from 3 days to 10 days. The longest hospital stay was 10 days because the patient had hypocalcaemia. The level of satisfaction of patients after surgery was divided into 5 levels: very satisfied, satisfied, normal, dissatisfied and very dissatisfied. In the study, most patients responded with the highest level of satisfaction, these 65 patients accounted for nearly 80.2% of total patients. A further 10 patients reported that they were satisfied (12.4%).

IV. DISCUSSION

General characteristics

The most common age ranges in our study are 31 - 40 years old and 41 - 50 years old, accounting for 39.5% and 32.1% of the patient population respectively. Similar to Le Van Thang's (2015) study, the largest age group is 31 - 40 which accounted for 31.1%.⁸ Women accounted for 98.8% of patients whereas men accounted for only 1.2% in 1 case. This result is also consistent with the study of Le Van Quang (2022) accounting for 95% and 1%.⁹

Clinical and subclinical

The most common symptom was the patient's self-discovery of a neck tumour (64.2%), which was the main reason of patient's visitation at the hospital. Le Van Quang's study (2020) and Xu Z (2019) also showed that neck mass rate was the most common.^{10,11}

Regarding the number of thyroid tumours via ultrasound, , patients with more than two nodules accounted for 27.2%. Among them, 1 patient had 4 nodules in both gland lobes, 4 patients had 3 nodules in both gland lobes, 17 patients had 2 nodules in either one or both gland lobes. Nodules were found in the right and left lobes at similar rates (49.5% and 46.8%), with nodules in the isthmus only accounting for 3.7%. An average nodule size of 26.9 ± 11.6 mm is quite consistent

Le Duc Anh's study (2022) averaging 27mm.¹²

Postoperative Care

We assessed postoperative pain according to the VAS scale (Visual Analog Scale), by recording the patient's most painful point and dividing it into 4 levels according to author Mark Jensen: no pain, mild pain, moderate, and severe. After assessing the pain level on the first day after surgery, we obtained the following results: the majority of patients felt pain, mild pain was recorded with 52 patients (64.2%) and moderate pain with 29 patients (35.8%).

By the 4th day after surgery, 53 patients (65.4%) only had mild pain. Patients were almost pain free on the 7th day after surgery, with 92.6% reporting no pain. No patient had severe pain after surgery. This result is similar to Le Van Quang's study with average VAS scores on days 1, 4, 7 of 4.5, 1.4, and 0.5, respectively.⁹ Similarly, author Anuwong's study also showed that the average VAS score for the first day after surgery being low¹³. When compared with open thyroidectomy and axillary endoscopic thyroidectomy, studies show that oral endoscopic operative patients have less pain, as recorded in Anuwong's study and Nguyen Xuan Hau's study.^{13,14} An advantage of TOETVA is that less flap dissection is required compared with other endoscopic and robotic thyroidectomy techniques, so there is less postoperative pain.

Research on thyroid surgery in general and endoscopic surgery in particular, two most common complication are damage to the recurrent laryngeal nerve (RLN) and damage to the parathyroid gland. Our research results showed that there were 5 cases of recurrent nerve injury with hoarseness, equivalent to 6.2% of cases. This result is similar to Le Van Quang's research which was 3.6%.⁹ Our study recorded 2 cases with signs of numbness and limb curling after surgery, which were diagnosed as hypocalcaemia due to parathyroid gland damage, accounting for 2.5% of the total number of patients. The rate of hypoparathyroidism in our study is similar to the study of Fernández-Ranvier et al (3%).¹⁵ Our study recorded 1 case of mental nerve injury with numbness in the lower lip area after surgery, representing 1.2% of patients. This result is lower than Le Van Quang's study (2022) with 2.8%.⁹ Complications recorded in other studies but were not seen in our study are hematoma, infection, seroma or skin burns.

Our study also recorded 3 cases showing signs of swallowing restriction accounting for 3.7% of cases. This result is slightly higher than Nguyen Xuan Hau's (2020) study with a rate of 2%.¹⁴ Patients after oral endoscopic thyroidectomy at Hanoi Medical University Hospital are instructed to perform neck stretching exercises 5 days after surgery to limit the formation of postoperative fibrous bands that affect the swallowing ability of the patient.

The average hospital stay was 5.2 ± 1.7 days with a range from the shortest 3 days to the longest 10 days. which is equivalent to Le Duc Anh's study reporting an average of 5.8 ± 1.9 days.¹² Only one patient was hospitalised for 10 days due to prolonged numbness in his limbs, requiring a longer hospital stay for further monitoring.

V. CONCLUSION

Research shows that TOETVA laparoscopic surgery is a safe method with a small percentage of postoperative complications and brings satisfaction in the postoperative process.

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