



TOTAL THYROIDECTOMY EXPERIENCE IN A TERTIARY CENTER IN SOUTH SOUTHERN NIGERIA, A THREE-YEAR PROSPECTIVE CROSS SECTIONAL REVIEW

By

PO Igwe¹, CV Ubah²

¹Department of Surgery, University of Port Harcourt Teaching Hospital, Alakahia, Port Harcourt, Nigeria.

²Department Of Surgery, University of Port Harcourt Teaching Hospital



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Abstract

BACKGROUND:

Thyroidectomy is a common surgery performed for thyroid disorders. It involves the removal of part or all of the thyroid tissue. Total thyroidectomy is being routinely performed as reported in literature. It is gradually gaining ground in our center.

AIM: To share the experiences of total thyroidectomies performed in a tertiary center in South Southern Nigeria.

METHODS:

This was a prospective analysis of patients who presented with anterior neck swellings over a three-year period from February 2019 to May 2022. Data were collected using the proforma. The data included only total or near total thyroidectomies performed. The patient characteristics were age, sex, complaint, histology results, diagnosis, outcome, follow up and complications. Ethical approval was obtained from the Hospital Ethics Committee and informed consent was obtained from each patient. The data were analyzed using computer based statistical software SPSS version 26.

RESULTS:

A total of 27 thyroidectomies were performed within this period. Out of the 27 thyroidectomies, 23 were total thyroidectomies; 2 were near total thyroidectomies; 1 was sis trunk procedure with total thyroidectomy; and 1 was near total thyroidectomy (Hartley DunHill). There was only one male patient. The rest were females. Hypocalcemia and recurrent laryngeal nerve paraesthesia were the complications noticed in 1 patient. The patient recovered from recurrent laryngeal nerve paraesthesia after six months. Most patients are currently on daily Levothyroxine.

CONCLUSION: Total thyroidectomy is considered to be safe as seen in most of our patients. But more in depth research may be required as regards Levothyroxine replacement for life.

KEY WORDS: total thyroidectomy, experience, tertiary center

INTRODUCTION:

Thyroidectomy is the surgical removal of all or part of the thyroid gland. The types of thyroidectomies are partial, subtotal, near-total and total thyroidectomies. A completion thyroidectomy is the removal of any remaining thyroid tissue after a previous partial thyroidectomy has been done. Total thyroidectomy is the surgical removal of all of the thyroid tissue. Total thyroidectomy is a major surgery done for patients with symptomatic goiter or uncontrollable hyperthyroidism. It is also done for patients with thyroid

cancer as well. The experience in our center appears to be similar to what is obtained in contemporary literature findings.

METHOD:

This was a cross-sectional review of prospectively collected data from patients who presented with anterior neck swellings over a three-year period. This period covered 1st February 2019 to 31st May 2022. Data were collected using the proforma. Only the patients who had total or near total thyroidectomies were included in this study. The patient

characteristics were age, sex, complaint, histology results, diagnosis, outcome, follow up and complications. Ethical approval was obtained from the Hospital Ethics Committee and informed consent was obtained from each patient. 20% of the patients were followed up using telephone (phone calls, especially in identifying their compliance and tolerance to the drug). The rest were seen in the surgical outpatient clinic. The data were analyzed using computer based statistical software SPSS version 26.

RESULTS:

A total of 27 thyroidectomies were performed within this period. Out of the 27 thyroidectomies, 23 were total thyroidectomies. 2 near total thyroidectomies were performed. 1 sis trunk procedure with total thyroidectomy was done in the same operation. 1 near total thyroidectomy (Hartley Dunhill) was done as well. There was only one male patient. The other patients were females. There were two modal age groups in this study. These groups were 31 to 40 and 51 to 60 both having 9 patients each. The mode of the age of the patients is 35years. The mean age of patients is 38.37 ± 12.010 (S.D) years. The minimum age of patients is 17years. The maximum age of patients is 62years. The presenting complaint of each patient was anterior neck swelling. Most patients had no complaint after the surgery. However, hypocalcaemia and recurrent laryngeal nerve paraesthesia were the complications noticed in one patient. The patient recovered from recurrent laryngeal nerve paraesthesia after six months. The mean follow up was 16.12 months. The histology results showed that two patients were diagnosed with papillary carcinoma of the thyroid while another patient had follicular adenoma of the thyroid. Most patients are currently on daily Levothyroxine. Most of them are regular with the oral drugs. Only one patient complained of itchy skin caused by intake of Levothyroxine. The histology of eleven patients could not be accounted for as either being awaited, lost or inconclusive. The table 1 to 3 and fig 1 to 3 showed the diagnosis, type of surgery performed and histological findings respectively.

DISCUSSION:

Thyroid disorders are the most common endocrine disorders in the world. With improvement in surgical facilities and diagnostic methods, thyroidectomy surgeries have proven to be much safer and they have become more regular. [1] Total thyroidectomy is the removal of the entire thyroid gland. Approximately eighty-five percent (85%) of the patients in this study had total thyroidectomy. Our study shows that the incidence of thyroid disorders is more common in women than in men as seen in index report which has 99% of female patients. Post-operatively, majority of the patients had no complaints. However, only one patient came down with hypocalcaemia and recurrent laryngeal nerve palsy after the surgery. This was managed through the administration of Calcium and Vitamin D. Serum calcium and phosphorus levels were monitored regularly to prevent hypercalcemic crisis. Hypocalcaemia is a common complication of total thyroidectomy with an incidence rate of 15 to 50%. [2] However most cases of hypocalcaemia resolve spontaneously but sometimes they become permanent and this would need

long-lasting follow-up. [3] Hyperthyroidism and goiter size are the main independent risk factors for the development of complications in total thyroidectomies. [4] In fact, in our patient who developed complications, she presented with long standing goiter of huge size and associated malignant features.

Other complications which may arise post-operatively include: hypothyroidism, temporary recurrent laryngeal nerve palsy, hematoma collection and hypertrophic scar formation. Early exploration and evacuation are important to avoid further complications caused by hematoma collection. [5] Generally, these complications are divided into early and late complications. Christou et al reported that hypocalcaemia (20-30%) and recurrent laryngeal nerve injury (5-11%) are the most common early complications after total thyroidectomy. Accurate exposure of the recurrent laryngeal nerve and expertise during the surgery can prevent recurrent laryngeal nerve injury. Other early complications include hemorrhage, dysphagia and hoarseness of voice. Suwannasarn *et al* outlined that immediate hypocalcaemia was observed in 38.5% patients. [6] Seo et al stated that early postoperative hypocalcaemia occurred in 42% of patients in their study [7]. It is important to note that early complications may also present three months after the surgery as late complications. These complications can be avoided with the appropriate surgical expertise and in the presence of well-equipped surgical environment. Goiter may recur in some cases of subtotal thyroidectomy [8]. This usually requires a repeat surgery and further increases the risk of laryngeal nerve injury due to the presence of scar tissue. [9] Death even though extremely rare may occur as well. However, our study did not record any mortality following total thyroidectomy. Total thyroidectomy on the other hand prevents recurrence of multi-nodular goiter because all the abnormal tissues are removed. It is also done for patients with thyroiditis and Graves' disease because it reduces associated risks. [10][11][12][13] Total thyroidectomy remains the treatment of choice for bilateral goiter. [14] As such, it is the preferred choice in treating benign thyroid cases. [15][16] It also provides a definite management of thyroid cancer. [17]

Histology results obtained post-operatively showed that most patients had colloid goiter. For two patients, the thyroid tissues were cancerous. Initiation of thyroid replacement therapy post-operatively using Levothyroxine is usually based on the weight of the patient without including the body mass index (BMI). Most patients tolerated Levothyroxine and were regular with the oral drugs. Only one patient complained of chronic itchy skin. Studies by Vardan Papoian et al [18] have shown that the weight-based dosing of thyroid hormone replacement therapy led to the overdosing of Levothyroxine in obese patients. Fabiola Valenzuela et al [19] postulated that other clinical variables other than weight should be considered in order to create the right dosages during thyroid replacement therapy. The use of the novel Poisson regression dosing scheme of Levothyroxine by Nick Zaborek et al [20] can help prevent complications of Levothyroxine overdose after thyroidectomy.

CONCLUSION:

It is clear that total thyroidectomy is relatively safe for most of our patients from this study. However, more in depth research may be required especially as regards Levothyroxine replacement for life.

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CONFLICTS OF INTEREST:

There are no conflicts of interest.

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