

Original article

Spectrum of Surgically Treated Thyroid Diseases at National Cancer Institute of Misurata, Libya, from Jan 2014 to Jan 2018: Special Emphasis on Thyroid Cancer

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Abstract

The principal diseases of the thyroid gland are goiter (diffused or nodular), hypo or hyperthyroidism, thyroiditis, and neoplasms. The incidence and prevalence of these thyroid diseases in a given community are variable depending on various factors. This study aims to provide data about the pattern of thyroid diseases in our institution. A special emphasis on thyroid cancer cases will be addressed. Retrospective analysis of data of all thyroidectomy cases over four years (Jan 2014- Jan 2018) operated on in the National Cancer Institute, Misurata, Libya. Patients with preoperative hypoparathyroidism, chronic kidney disease, or a history of dysphonia were excluded. Age, gender, clinical information, complications, and cytology results were studied. Data were collected from medical records. A total of 222 cases were collected. Females accounted for 68% and males for 32% of the cases. Most patients were in their 3rd and 4th decades of life and lived in urban areas, and the patient's ages range from 30 to 65 years. Fine needle aspiration (FNA) was done in 100 cases and showed benign findings in 83% and malignant findings in 5% of cases. Hypocalcemia (9%), hoarseness of voice (10%), bleeding (3.1%), and vocal cord injury (1.8%) were the common complications encountered. In the present cohort, thyroid malignancy accounts for 5% of thyroid disease. Hypocalcemia was the most common post-thyroidectomy complication, and voice changes, seroma, hematoma, and tracheal injury are rare complications. We need more multicentric studies to investigate the national pattern of thyroid diseases in Libya.

Keywords. Mesenchymal Spindle Cell Tumor, Surgical Resection.

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Introduction

Thyroid gland enlargement is a common disease of the endocrine system all over the world. The documented incidence of both benign and malignant lesions in surgically treated thyroid swellings varies from one area to the other (1-6). The thyroid gland can be affected in many conditions. The major diseases of the thyroid gland are diffuse or nodular goiter, hypo or hyperthyroidism, autoimmune thyroiditis and neoplasms (7). Benign diseases of thyroid gland are much commoner than malignant ones. Simple goiter is the most common thyroid disease all over the world and affects more than 200 million people. The main cause of simple goiter is iodine deficiency in addition to goitrogens (7). The prevalence of thyroid gland neoplasms is variable in different regions of the globe (1,2,3,6,8-11). Malignant neoplastic diseases of thyroid gland is more prevalent in females than males and it is more common in the third, fourth and fifth decade of life (10). Surgery of thyroid constitutes a significant proportion of elective general surgery in the developing world. Many surgical centers with different operative techniques have published reports with great discrepancy in incidence of complications, analyzing them with different methods of diagnosis and result evaluation (13).

The aim of this study was to provide data about the pattern of thyroid diseases in our institution which indirectly reflects the real situation in the community. It will also help to suggest preventive measures and prepare necessary skilled professionals and materials.

Materials And Methods

Retrospective analysis of data of all thyroidectomy cases over a four-year period (Jan 2014- Jan 2018) operated on in the National Cancer Institute, Misurata, Libya. Patients with preoperative hypoparathyroidism, chronic kidney disease, or the history of dysphonia were excluded. Age, gender, clinical information, complications and cytology results were studied. Data were collected from medical records.



Results

A total of 222 cases were collected. Females accounted for 68% and males for 32% of the cases. Most patients were in their 3rd and 4th decade of life and lived in urban area and the patient ages ranges from 30 to 65 years (51.4%) (Table 1).

Table 1. Socio-demographic profile of 222 patients operated for thyroid swelling in the National Cancer Institute, from January 2014– January 2018.

Description	Frequency	Percentage (100%)	
Sex	Female	150	68
	Male	70	32
Age group	30-65	220	100
Residence	Urban	220	100

FNA was done in 100 cases and showed benign findings in 83% and malignant finding in 5% of cases. Among them, Oncocytic adenoam accounted for (60%), Follicular neoplasm (20%), Papillary cancer (5%), Hashimoto thyroid (3%), No Atypical cells in 12%. (Table 2). Histologically, oncocytic adenoma make (60%) and papillary cancer (5%) from the FNA results (Table 2).

Table 2. Fine needle aspiration (FNA) findings of patients operated at the National Cancer Institute, Misurata, Libya, between January 2014 to January 2018

FNA finding	Frequency	Percent (%)
Oncocytic adenoma	60	60
Follicular neoplasm	20	20
Papillary cancer	5	5
Hashimotos	3	3
No atypical cells	12	12

During the study period, a total of 220 thyroidectomies were performed. Of these, 150 (68%) were total thyroidectomies and 70 (32%) were hemithyroidectomies: lobectomies with isthmusectomy. 25 (11%) patients have undergone neck dissections. Hypocalcaemia (9%), hoarseness of voice (10%), bleeding (3.1%) and vocal cord injury (1.8%) were the commonest complications encountered (Table 3).

Table 3: Post-thyroidectomy complications encountered after surgery in 222 patients at the National Cancer Institute, Misurata, Libya between January 2014 – January 2018.

Complications	Frequency	Percent (%)
Hoarseness of voice	22	10
Hypocalcemia	20	9
Bleeding	7	3.1
Vocal cord injury	4	1.8
None	170	77.27

Discussion

Females in our study predominate with a ratio of F:M (10.7:1). This is comparable to other studies: Gondar (5:2) (14), and Zambia (7.8:1) (15). In females, thyroid problems first arise during times of hormonal unrest, such as childbearing and periods of prolonged or intense emotional, physical and mental stress, like pregnancy and menopause. The other reason for being common in female could be a result of autoimmune thyroid diseases (graves and Hashimoto's thyroiditis) is common in females (14,16,20,22). According to WHO, 7% of the world population is suffering from clinically apparent goiter; most of them are from developing countries (7ethiobia 20). Most of our patients were in their 3rd and 4th decades. The figure is comparable to other studies (14,15). All patients lived in urban areas. This figure tells us the increased awareness for early visit to health facilities and the availability of the service in urban areas. FNAC is superior to isotope scan and ultrasonography. This should be used as the initial investigation in patients with solitary thyroid nodules to distinguish between benign and malignant thyroid lesions. It is of great help in deciding that a more radical procedure will be needed in case of suspicious or malignant cytology. Surgical treatment should not be delayed if there is any doubt about the diagnosis. The incidence of benign and malignant thyroid lesions in patients treated surgically differs

from one area to another (14 -19). According to our FNA results, Onocytic and follicular neoplasm was commonest (80%) and papillary cancer (5%). The most common type of surgery was total thyroidectomy (68%). Which is going with the current trend in most countries, especially developed countries (20). This can be explained by the increase in thyroid malignancies. These extensive surgeries are better in preventing recurrences in either toxic or malignancies (20,22). The rate of complications post thyroid surgery in our study was in acceptable ranges compared to other studies (17,18,21). This may be due to strict follow of standard techniques and safe anesthesia. The death rate is nill.

Conclusion

Hypocalcemia was the most common post-thyroidectomy complication, and voice changes, seroma, hematoma, and tracheal injury are rare complications. Total thyroidectomy is associated with the highest risk of postoperative hypocalcemia. We need more multicentric studies to investigate the national pattern of thyroid diseases in Libya.

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