



STUDY OF THE EPIDEMIOLOGICAL FACTORS OF THE SURGICAL THYROID GLAND DISEASES

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ABSTRACT

Objective: This study aimed to study the epidemiological data of surgical thyroid diseases, the frequency of symptoms of these diseases.

Materials and Methods: The variables recorded included age, gender, symptoms of the patients, history of previous radiation and the surgical treatment used. **Results:** In our study, we had a 85.7% female prevalence. The most common manifestations were lump in the neck (59 patients, 84.3%), followed by dysphagia (34 patients, 48.6%) and pain in the neck (25 patients, 35.7%). However, the least common manifestations were anxiety (3 patients, 4.3%) and diarrhea (4 patients, 5.7%). Most of the cases were treated by total thyroidectomy (74.3%), while 25.7% were treated by thyroid lobectomy. **Conclusion:** This study shows the need for a bigger study on a larger scale in order to

understand the epidemiological data of surgical thyroid diseases.

INTRODUCTION

The commonest cause of thyroid disease worldwide is iodine deficiency, which causes goitre and hypothyroidism in some. However, autoimmune thyroid disease is the predominant form of thyroid dysfunction in the developed world. Although genetic (HLA-DR3, CTLA-4, and thyroglobulin gene mutations) and environmental factors (infection, smoking, iodine status) have been implicated, its precise cause is unclear.^[1,2]

Overt thyrotoxicosis or hypothyroidism occurs in about 2% of women and 0.2% of men in the UK.^[3] The incidence of hypothyroidism and hyperthyroidism in women is 4.1/1000 and 0.8/1000 per year respectively, but is much lower in men for both (0.6/1000 per year).^[4]

More recent data suggest a higher incidence, for example, 4.98 (women) and 0.88/1000/year (men) for hypothyroidism and 0.77 (women) and 0.14/1000/year (men) for hyperthyroidism.^[5] The incidence of overt thyroid dysfunction may depend on population iodine intake.^[6] The main causes of hypothyroidism in the developed world are Hashimoto's disease, and thyroid ablation (radioactive iodine, surgery, and drugs); and of thyrotoxicosis are Graves' disease (GD) in 70%, toxic multinodular goitre (TMNG), and toxic adenoma (TA). Subclinical thyroid dysfunction (commonly in women and the elderly population) is diagnosed more often because of widespread thyroid testing in modern clinical practice. Clear management strategies are however yet to emerge.

Up to our knowledge, this study is the first of its kind in Syria.

MATERIALS AND METHODS

This study was a retrospective study of the files of the patients who reviewed AlMoujtahd Hospital (Damascus Hospital) between 1/8/2017 and 31/12/2017 and were diagnosed with thyroid diseases during the studied period.

This study included all cases from 1/8/2017 to 31/12/2017. All the data were collected only by the authors to ensure the privacy and all the names and personal information were blinded. Statistical analysis was done using SPSS 25.0.

RESULTS

Table 1: Demographic variables of our study, frequency of symptoms, previous radiation history and frequency of surgical treatment used.

		N	%	
Gender	Male	10	14.3	
	Female	60	85.7	
			N	%
Symptoms	Lump in the Neck	No	11	15.7
		Yes	59	84.3
	Neck Pain	No	45	64.3
		Yes	25	35.7
	Chronic Cough	No	64	91.4
		Yes	6	8.6
	Dysphagia	No	49	70.0
		Yes	21	30.0
	Difficulty in Breathing	No	49	70.0
		Yes	21	30.0
	Voice Change	No	64	91.4

		Yes	6	8.6
	Feeling Cold	No	65	92.9
		Yes	5	7.1
	Feeling Tired And Lethargy	No	57	81.4
		Yes	13	18.6
	Diarrhea	No	66	94.3
		Yes	4	5.7
	Constipation	No	63	90.0
		Yes	7	10.0
	Feeling Warm	No	60	85.7
		Yes	10	14.3
	Sweating	No	56	80.0
		Yes	14	20.0
	Palpitation	No	65	92.9
		Yes	5	7.1
	Weight Loss	No	67	95.7
		Yes	3	4.3
	Anxiety	No	58	82.9
		Yes	12	17.1
	Fever	No	65	92.9
		Yes	5	7.1
Previous radiation		No	65	92.9
		Yes	5	7.1
Surgical procedure		Thyroid Lobectomy	18	25.7
		Total Thyroidectomy	52	74.3

Table 2: Correlation between previous radiation and FNA diagnosis.

FNA Diagnosis * Previous radiation Correlation			
			Previous radiation
			Yes
FNA Diagnosis	Goitre	Count	1
		% within FNA Diagnosis	20.0%
	Papillary carcinoma	Count	4
		% within FNA Diagnosis	80.0%

We had a statistical significant between the history of previous radiation and FNA diagnosis ($p < 0.05$).

DISCUSSION

A similar study of surgical diseases of the thyroid gland showed a majority prevalence of females 82.2 %.^[5] In our study, this was similar with a 85.7% female prevalence. (Table 1).

Thyroid diseases have a wide range of manifestations such as neck pain, lump in the neck, chronic cough, dysphagia, difficult breathing, voice change, feeling cold or hot, Feeling tired and lethargic weight loss, bowel habits changes, depression and more.^[16]

In our study, the most common manifestations were lump in the neck (59 patients, 84.3%), followed by dysphagia (34 patients, 48.6%) and pain in the neck (25 patients, 35.7%). However, the least common manifestations were anxiety (3 patients, 4.3%) and diarrhea (4 patients, 5.7%). The previous and the remaining manifestations are shown in (Table 1).

Thyroid gland is considered resistant to acute effects of radiation.^[17] However, It was proven that the thyroid is sensitive to long term effects of radiation.^[18] Different radiation-induced abnormalities include hypothyroidism, thyroiditis, Graves' disease, goiter and carcinomas. High amounts of radiation exposure increases the risk of thyroid carcinoma.^[19] In our study, five patients (7.1%) had a history of thyroid radiation and 4 of them (80% of patients with radiation history) had papillary carcinoma and one patient had a goitre (20% of patients with radiation history). (Table 2). We studied the surgical treatment performed on the cases in our study. Most of the cases were treated by total thyroidectomy (74.3%), while 25.7% were treated by thyroid lobectomy. (Table 1).

CONCLUSION

We had an 85.7% female prevalence. The most common manifestations were lump in the neck (59 patients, 84.3%), followed by dysphagia (34 patients, 48.6%) and pain in the neck (25 patients, 35.7%). However, the least common manifestations were anxiety (3 patients, 4.3%) and diarrhea (4 patients, 5.7%). Most of the cases were treated by total thyroidectomy (74.3%), while 25.7% were treated by thyroid lobectomy. This study shows the need for a bigger study on a larger scale in order to understand the epidemiological data of surgical thyroid diseases.

Compliance with Ethical Standards

Funding: This study was not funded by any institution.

Conflict of Interest: The authors of this study have no conflict of interests regarding the publication of this article.

Ethical approval: The names and personal details of the participants were blinded to ensure privacy.

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