

HASHIMOTO’S THYROIDITIS AS A RISK FACTOR OF COMPLICATIONS OF TOTAL THYROIDECTOMY

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INTRODUCTION

Thyroid diseases are one of the most prevalent endocrinopathies globally. Most of the thyroid diseases treated surgically especially when medical treatment fails, cosmetic purposes or when thyroid cancer is suspected. Hashimoto's thyroiditis (HT), a type of chronic lymphocytic thyroiditis, is the most common autoimmune thyroid condition. Histologically, the disease is characterized by an extensive lymphocytic infiltrate in the thyroid and follicular atrophy with increased fibrosis. The diagnosis is primarily made on the basis of serum autoantibodies against thyroperoxidase and/or thyroglobulin, which may precede clinical symptoms and biochemical hypothyroidism by several years. Medical treatment is usually opted for majority of patients with Hashimoto's thyroiditis (HT). This includes both hypothyroid and hyperthyroid patients. In order to reduce thyroid volume and supplement thyroid hormone, patients with HT are typically treated conservatively with levothyroxine (L-T4) therapy. However, there are some cases where patients with HT are referred for surgery. Patients with HT, the thyroid gland tends to adhere more to its anatomical surroundings, which can increase the risk of damaging structures adjacent to the thyroid such as the parathyroid glands and the recurrent laryngeal nerve.

AIM OF THE WORK

This prospective study compared the intraoperative challenges and postoperative complications of total thyroidectomy performed for patients with HT and patients with other non-malignant goiters.

SUBJECTS AND METHODS

After approval of the local ethics committee, all the patients included in this study were informed about the procedure and signed an informed written consent before carting the procedure. The present study included 46 patients divided into two groups. Group A consisted of 25 patients with laboratory and radiological proven as HT. group B consisted of 21 patients with non-malignant goiters. All patients underwent total thyroidectomy in the head and neck and endocrine surgical unit of the Alexandria main university hospital.

Preoperative assessment: thorough history taking, routine laboratory investigations, thyroid function tests (TFT), antithyroid antibodies (thyroid perioxidase antibody TPOAb and thyroglobulin antibody TgAb), ultrasonographic examination of neck and thyroid gland and ultrasound guided FNAC when indicated.

RESULTS

The operative time reported in Group A was 153.6±23.43 minutes that was longer than in Group B, as it was 121.4±25.94 minutes (p<0.001). Also intraoperative blood loss, estimated using the observational gauze visual analogue, was more in group A than in group B. Five patients (8%) in group A experienced transient hypocalcemia compared to one patient (4.7%) in group B. All patients with transient hypocalcemia were ordered oral calcium supplementation and it improved before duration of 6 months.

Table 1: Comparison between the two studied groups according to Intraoperative data

	Group A (n = 25)	Group B (n = 21)	P
Blood loss (ml)			
Min. – Max.	100.0 – 1000.0	75.0 – 200.0	<0.001*
Mean ± SD.	426.0 ± 198.5	115.5 ± 39.11	
Median (IQR)	350.0 (300.0 –500.0)	100.0 (100.0 –150.0)	
Injury to recurrent laryngeal nerve			
No	25 (100.0%)	20 (95.2%)	FEp= 0.457
Yes	0 (0.0%)	1 (4.8%)	
Injury parathyroid gland			
No	22 (88.0%)	20 (95.2%)	FEp= 0.614
Yes	3 (12.0%)	1 (4.8%)	
Duration of the operation (min)			
Min. – Max.	120.0 – 180.0	90.0 – 180.0	<0.001*
Mean ± SD.	153.6 ± 23.43	121.4 ± 25.94	
Median (IQR)	150.0 (150.0 –180.0)	120.0 (90.0 –150.0)	

Table 2: Comparison between the two studied groups according to postoperative data

	Group A (n = 25)		Group B (n = 21)		P
	No.	%	No.	%	
Presence of neck hematoma					^{FE} p=1.000
No	24	96.0	20	95.2	
Yes	1	4.0	1	4.0	
Volume of blood loss (ml)					<0.001*
Min. – Max.	75.0 – 300.0		50.0 – 200.0		
Mean ± SD.	182.0 ± 70.16		98.81 ± 40.68		
Median (IQR)	200.0 (150.0 – 200.0)		100.0 (75.0 – 100.0)		
Serum calcium level (mg/ml)					
Min. – Max.	6.80 – 10.0		7.0 – 11.0		0.008*
Mean ± SD.	8.58 ± 0.91		9.27 ± 0.85		
Median (IQR)	8.80(8.0 – 9.0)		9.0 (9.0– 10.0)		
Signs and symptoms of hypocalcaemia					^{FE} p=0.198
No	20	76.0	20	85.7	
Yes	5	24.0	1	14.3	
Recurrent Laryngeal Nerve (RLN) affection					^{FE} p=0.585
Negative	24	96.0	19	90.5	
Positive	1	4.0	2	9.5	

CONCLUSION

- Patients with HT had a higher rate of complications after thyroidectomy when compared to patients without HT. Therefore, giving patients with HT proper informed consent knowing the increased risks of surgery must be carefully considered before moving forward with operative treatment. Total thyroidectomy for HT is challenging, time consuming and difficult operation and should be seen as a risk factor of complications of total thyroidectomy.
- Further studies are needed to confirm the risk associated with total thyroidectomy in cases with HT.