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ORIGINAL ARTICLE

Thyroidectomy Related Complications in Post-Thyroid Lobectomy (Unilateral) in Addition to Thyroid Isthmusectomy

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ABSTRACT

Objective: To identify thyroidectomy related complications in post-thyroid lobectomy (unilateral) in addition to isthmusectomy.
Study Design: Cross-sectional study
Place and Duration: Department of ENT, Islamic International Medical College, Islamabad from 1st April 2019 to 31st March 2020.
Methods: Sixty patients were enrolled. These patients were those who have to undergo complete thyroidectomy post unilateral-thyroid lobectomy in addition to isthmusectomy. The age pf the patients was 16-72 years. Each patient's demographic, clinical as well as surgical details were recorded and calcium tests were run.
Results: There were 34 females and 26 males in this study. The mean age of the enrolled patients was 41.12±5.9 years. The mean BMI calculated of the patients was 25.4±2.5 kg/m^2. Hypocalcaemia (transient) was identified 10% whereas 3.3% got seroma and 1.6% each suffered from transient voice hoarseness and hematoma in neck.
Conclusion: Transient hypocalcaemia is the most frequent complication followed with seroma and hematoma.
Keywords: Completion Thyroidectomy, Thyroid lobectomy, Thyroidectomy

INTRODUCTION

Thyroid carcinoma is designated as the most commonly occurring tumour of the endocrine system attributing to 92% of the all endocrine related tumours. Within this papillary-thyroid carcinoma is the major type with 85% prevalence.[1] Around the globe the presentation of these tumours is as single identifiable thyroid node.[2] The diagnosis of thyroid tumour is performed through sonographic imaging as well as cytological assessment of aspirated fine needle samples. Thyroid lobectomy is a standard operating procedure for unilateral thyroid abrasions such as thy-3 and thy-4.[3]

Various studies identified the fact that prevalence of incidental thyroid carcinomas in benign goitre patients exceeds from 3 percent to 16.6 percent.[4,5] Despite the fact that papillary carcinoma are most reported still 1/3rd are follicular as well as multicentre/large-papillary.[6]

An annual vast number of thyroidal surgeries are performed.[7] Many patients present identification of carcinoma much later after their previous lobectomy making their case complicated. In those cases, requiring completion-thyroidectomy surgeons becomes reluctant due to associated complication risks including recurrent-laryngeal injury of the nerve, bleeding and hypocalcaemia. The reason for such complication's adhesive and inaccurate anatomy due to previous surgery.[8-11]

The present study was designed for identifying the complications related thyroidectomy in post thyroid lobectomy (unilateral) in addition to thyroid isthmusectomy.

MATERIALS AND METHODS

It was a cross-sectional study with descriptive design performed at Department of ENT, Islamic International Medical College Islamabad from 1st April 2019 to 31st March 2020. A total of 60 patients within the age group of 16-72 years were enrolled. Patients were enrolled after gaining an informed consent from each. The study was prior approved from review committee. Complete demographic, and other related clinical and surgical information was detailed on a proforma. Body mass index of each patient was also calculated. Those patients suffering from medullary, anaplastic or lymphoma of the thyroid were taken in exclusion criteria. Patient calcium analysis was performed pre-operatively as well as on post-operative day 1. Data was analysed by SPSS-24.

RESULTS

There were 34 (56.6%) females and 26 (43.4%) males. The mean age was 41.12±5.9 years and mean BMI was 25.4±2.5 kg/m^2 (Table 1).

Fifty three percent had their malignancy located in contralateral-lobe. Forty eight were suffering from papillary carcinoma (80%) while 4 (6.6%) were having Hurthle-cell carcinoma. Eight (13.3%) were suffering from follicular carcinoma (Table 2). Fifty three percent had their malignancy located in contralateral-lobe (Fig. 1).

Table 1: Demographic information of the patients (n=60)

Variable	Frequency	Percentage
Gender		
Male	34	56.6
Female	26	43.3
Age (years)		
16-36	9	15.0
37-56	40	66.6
57-72	11	18.3
Mean BMI	25.4±2.5	

Table 2: Frequency of carcinoma type (n=60)

Carcinoma Type	No.	%
Papillary	48	80.0
Hurthle cell	4	6.6
Follicular	8	13.4

Table 3: Complication rate in thyroidectomy patients

Complications	No.	%
Transient hypocalcaemia	6	10.0
Seroma	3	3.3
Hematoma	1	1.6
Voice hoarseness	1	1.6
Infectious Wound	-	-
Permanent hypoparathyroidism or and hypocalcaemia	-	-

Hypocalcaemia (transient) was identified in 6 (10%) patients whereas 3 (3.3%) patients got seroma and 1 (1.6%) suffered from transient voice hoarseness and 1 (1.6%) suffered from hematoma

in neck. None of the patients suffered from per meant hypo-parathyroidism or hypocalcaemia as well as infection of wound (Table 3).

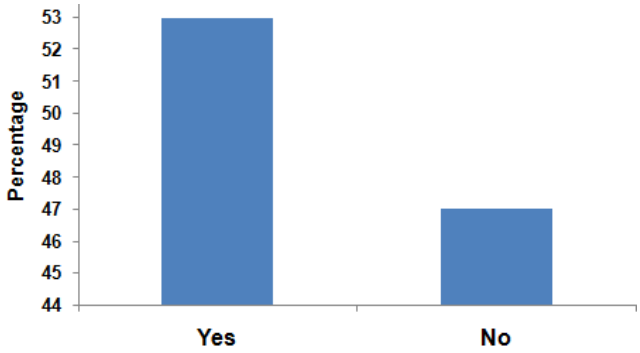

Fig. 1: Prevalence of malignancy location in contralateral lobe

DISCUSSION

Complete thyroid is featured with various characteristics as lobectomy, subtotal-thyroidectomy or approximate removal of thyroid tissue post primary thyroid operation in case of malignancies.[12]

The mean age of patients in the current study suggests that middle age was most frequent age for thyroid carcinoma with female being more at a risk than males. Furthermore, the papillary carcinoma was highly significantly observed within cases than other thyroidal cancers. Similar other researches have also reported the same.[9,13,14]

Patients undergoing subtotal-thyroidectomy surgeries often suffer from heavy blood loss, un-identification of bilateral laryngeal nerves (recurrent) which escalates the risks of complications in these patients.[15]

The blood supply to the parathyroid gland can also suffer damage during operation resulting into hypocalcaemia. In present study transient hypocalcaemia was observed in ten percent cases fortunately none had permanent damages.[16] The risk of intermittent hypothyroidism is reported as 5.8% to 24.5% in earlier studies accompanied by permanent hypocalcaemia.[2,17]

In present research the prevalence of seroma formation was only 3.3%. This low prevalence may have caused none of the cases presenting wound infection formation. Research elaborates the fact that seroma production is associated with necrosis of flap and wound infection.[18]

CONCLUSION

Transient hypocalcaemia is the most frequent complication of complete thyroidectomy followed by seroma and hematoma formation. No permanent damage and wound infection is recorded making this procedure safe and efficiently reliable.

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