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THYROID DISEASES AND SURGERY: AN AUDIT FROM THE ORL-HNS DEPARTMENT OF STANLEY MEDICAL COLLEGE AND GENERAL HOSPITAL

Dr Srikamakshi K, Dr T Balasubramanian, Dr N Seethalakshmi

ABSTRACT:

This article is an audit of the thyroid surgeries performed in the Otorhinolaryngology-Head and Neck Surgery (ORL-HNS) department of Stanley Medical College and General Hospital, Chennai-01, during the 2 year period from 2009 to 2011. 5O Thyroid surgeries have been performed during this period of which 12 were total thyroidectomies and the remaining 38, hemi-thyroidectomies. Adenoma of the thyroid was the most common benign disease encountered while papillary carcinoma was the only malignant disease of thyroid diagnosed.

INTRODUCTION:

Diseases of the thyroid constitute one of the most common endocrine disorders; probably the second most common, following diabetes. The number of patients with thyroid related issues who present themselves in the OPD , more relevantly in the ORL-HNS OPD these days, is on the rise, possibly due to increasing awareness among the public. Such seems to be the situation in the ORL-HNS OPD of Stanley medical college and general hospital as well. 50 thyroid surgeries have been performed during the 2 year period from 2009 to 2011 and we are still counting! There definitely seem to be regional variations in the most common disease of thyroid that is prevalent. While somecenters have reported colloid goiter, and some others multinodular goiter as their most prevalent thyroid disease, ours turned out to be adenoma. However, Multi-nodular goiter was the most common indication for a total thyroidectomy while adenoma was the only indication for a hemi-thyroidectomy. All papillary carcinomas were treated with a total thyroidectomy.

THE CLINICAL SCENARIO:

Of the 50 cases that we are discussing here, there was only a single male patient. Females thus constituted a whopping 98% of the study group! This goes on to prove the higher prevalence of thyroid diseases among the female population. The only elderly male patient turned out to be a case of papillary carcinoma of thyroid, who was subsequently treated with a total thyroidectomy. Patients who underwent hemi-thyroidectomy belonged to the age group ranging between 35-45 years, while patients treated with a total thyroidectomy were aged between 50-60 years.

All cases were evaluated pre-operatively with basic investigations such as a complete blood count, blood grouping, renal function tests, urine routine, ECG, chest X-ray, as well as thyroid specific investigations such as USG neck, FNAC thyroid which gave us a presumptive diagnosis and the indication for the appropriate surgery for the patient. The thyroid hormone status was also assessed for all patients by blood tests for T3, T4 and TSH, and euthyroidism was ensured before surgery.

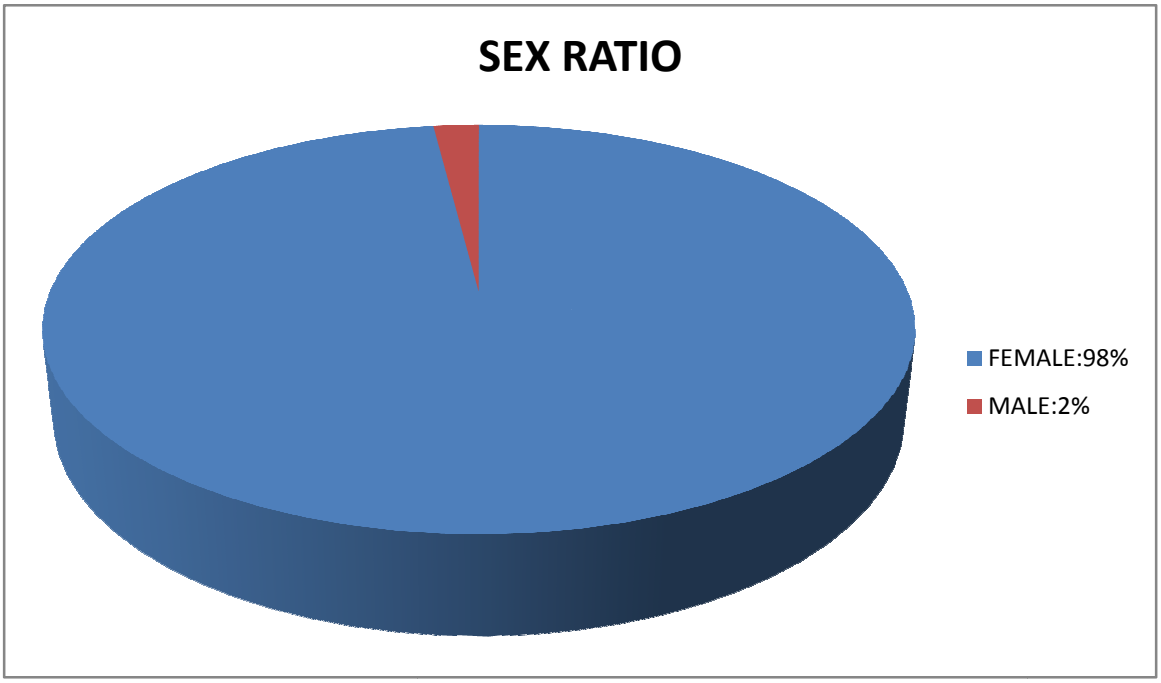
There were 38 cases of adenoma thyroid (76% of study group), all of whom were treated with hemi-thyroidectomy. Thus, hemi-thyroidectomies constituted 76% of the total number of thyroid surgeries performed, while adenomas of the thyroid constituted 100% of the cases treated with a hemi-thyroidectomy. We encountered 7 cases of multinodular goiter (14% of study group). The surgery performed on them all was a total thyroidectomy. The remaining 5 cases of our study group turned out to be papillary carcinoma of thyroid (10%), all of whom underwent total thyroidectomy. Thus multinodular goiter contributed to 58.4% of the total thyroidectomies performed, while the remaining 41.6% was contributed by papillary carcinoma of thyroid.

Post-operatively, all the thyroid specimens were sent for histo-pathological study. This became important as there was 1 case of adenoma thyroid which turned out to be lymphocytic thyroiditis on biopsy. This is significant as this case which was managed with hemi-thyroidectomy, went on to lead to the only case of recurrent laryngeal nerve paresis post-operatively in our study group. This warrants an analysis about any relationship between surgery for lymphocytic thyroiditis and recurrent laryngeal nerve paralysis and whether surgery should be deferred for the same. There was a single case of transient hypoparathyroidism (2%) following a total thyroidectomy for papillary carcinoma.

DISCUSSION:

We consider this article an earnest endeavor to understand the spectrum of thyroid diseases in the community and to present to you an audit of the surgeries that have been appropriately undertaken for each diagnosis at Stanley Medical College and Hospital.[1,2,3,4,5,6,7] Lets begin this discussion by considering the sex divide for starters. There seems to be no controversy in this regard, with studies from Hyderabad, Nigeria, Karachi, Saudi, Ethiopia, Kenya and the rest of the world reporting a striking female preponderance, with a female: male ratio of 5:1, reported in Nigeria, and 4.5:1 reported from

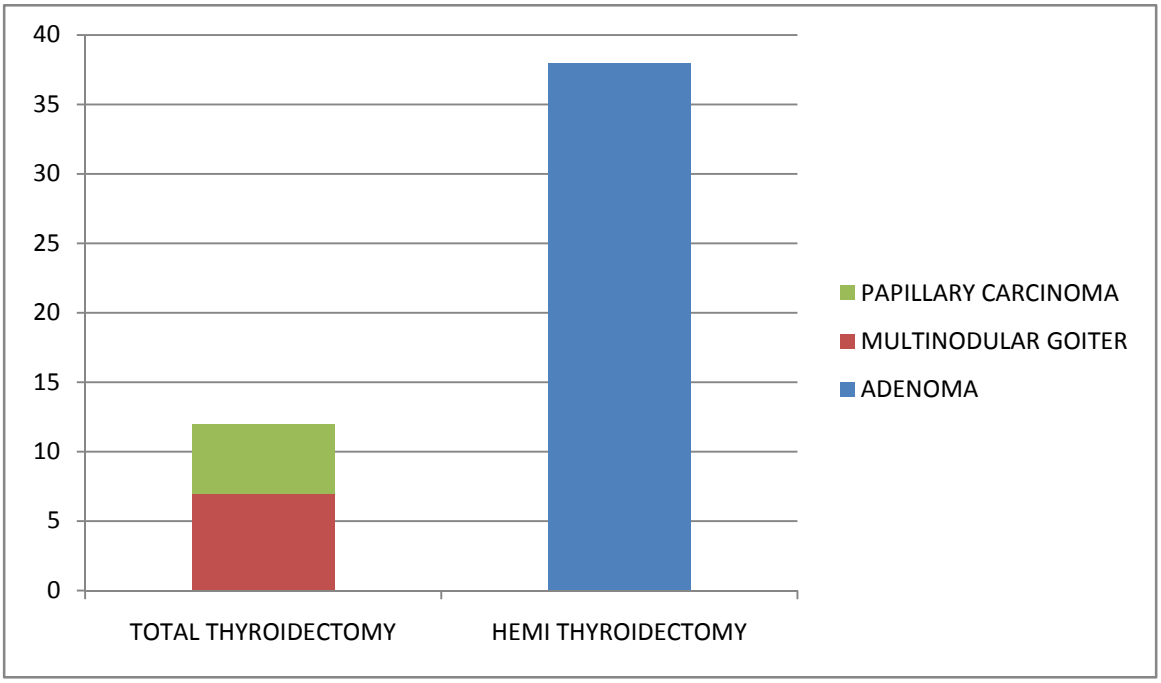
Ethiopia and Saudi.[1,2,3,5,6,7]



Next coming to the age distribution. We observe a bimodal distribution with a clustering of benign adenomas and hemi-thyroidectomies performed for the same between 35-45 years of age and total thyroidectomies having to be performed for multinodular goiter and papillary carcinoma for patients beyond 50 years of age. Studies conducted in Nigeria give an age range of 11-70 years in the study group, while the Ethiopian study group reports an age range of 20-59 years. [2,6,7.]

Adenoma thyroid was the most common pre-operative diagnosis we had. There definitely seems to be some discrepancy in this regard between regions, with studies from Karachi and Saudi reporting multinodular goiter as their most common diagnosis and studies from Hyderabad, Nigeria and Ethiopia finding colloid goiter to be their most common indication for surgery.[1,2,3,5,6,7.]**Multinodular goiter was our most common indication for a total thyroidectomy.**[8,9,10,11.] **Papillary carcinoma was the only malignant disease of the thyroid we encountered. There is agreement between states and regions in finding papillary carcinoma of thyroid as the most common malignant disease, though follicular and medullary variants also seem to have been dealt with by them. It also seems to be an unanimous decision among surgeons to treat papillary carcinoma with total thyroidectomy with or**

without neck node dissection depending on the lymph node status.[15,16.]



The histopathological diagnosis reached after surgery[12,13,14] is important in assessing the appropriateness of the surgical technique we have undertaken for every clinical diagnosis, especially hemithyroidectomies. The histopathological examination of the specimen would reveal a lurking malignant potential for the remaining thyroid tissue, if any, and thus aid us in considering a revision total-thyroidectomy for the same indication. Such was not the case though for any of the hemi-thyroidectomies that we performed. Instead, one of the hemi thyroidectomyspecimens, gave us a HPE diagnosis of lymphocytic thyroiditis. Moreover, the very same patient, went on to have transient unilateral recurrent laryngeal nerve paresis, making us consider revision of the treatment modality to be undertaken for thyroiditis.

S.No	HISTOPATHOLOGICAL DIAGNOSIS	NUMBER	PERCENTAGE
1.	Adenoma of thyroid	37	74%
2.	Multi-nodular goiter	7	14%
3.	Papillary carcinoma of thyroid	5	10%
4.	Lymphocytic thyroiditis	1	2%

Coming to the post-operative complications[17] that we had to handle.Likewe mentioned before, there was a single case of unilateral recurrent laryngeal nerve paresis[21,22,23] for a hemi-thyroidectomy that we performed. A study by Wagner HE and Seiler C reports lymphocytic thyroiditis as the 2nd most common cause for a RLN palsy after malignancy[21]. Other studies report surgery for euthyroid Hashimoto's as a good option to relieve the pain and discomfort associated with the swelling, though the surgery could be more technically demanding than usual.[24,25,26]

There was a single case of transient hypoparathyroidism[18,19,20] following a total thyroidectomy for papillary carcinoma of thyroid. A review of literature reveals comparatively increased incidence of hypoparathyroidismfollowing total thyroidectomy compared to a hemi- and sub-total thyroidectomy. Some authors suggest adopting meticulous micro-surgical operative techniques and practising parathyroid autotransplantation(PTAT) post-thyroidectomy to prevent post-operative hypocalcemia.

Considering the differences in distribution of thyroid diseases between regions, we need to make efforts to understand the pattern and endemicityof the disease in our community and look into its possible etiopathogesis, such as iodine deficiency, radiation exposure, familial clustering etc., so that we could plan measures to control the same and reduce the disease burden in the community on the one hand, while on the other hand, we treat the diseased lot with the most appropriate surgical technique, when indicated. A study conducted in Yemen reveals such endeavours already underway in their region.[27]

CONCLUSION:

Thyroid disorders continue to be a commonly encountered endocrine disorder, with adenoma thyroid ruling the roost in our community. The female preponderance is there to be seen in black and white. There is a clustering of malignancy in the elderly and benign cases in the middle-aged. Adenoma thyroid was the most common benign lesion seen, while papillary carcinoma was the only malignant diagnosis made. There was one case each of recurrent laryngeal nerve paresis and transient hypoparathyroidism directing us to look into any possible correlation between surgery for lymphocytic thyroiditis and nerve palsy, and also re-establishing the risk of hypoparthyroidism in performing a total thyroidectomy.

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