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Research Article

Retrospective Evaluation of Our Total Thyroidectomy Results

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Abstract: Thyroid gland diseases are one of the most frequently seen endocrine disorders. Nodular disease of thyroid is the worlds most encountered endocrine patholog. It's prevalance changes upon the iodine intake of the region. Frequency of clinically palpable thyroid nodules ranges from 4-7% among different communities and nearly 5% of thyroid nodules are malignt. In this study, data of 34 patients who underwent surgery for thyroid pathology were analysed retrospectively and preoperative findings, histopathological diagnosis and post-operative complications were evaluated. Aim of this study is to evaluate and discuss our clinical and surgical approach to the thyroid diseases.
Keywords: Thyroidectomy, thyroid, carcinoma, nodules.

INTRODUCTION

Thyroid gland diseases are one of the most frequently seen endocrine disorders nowadays. Nodular disease of thyroid is the worlds most encountered endocrine pathology and it's prevalance changes upon the iodine intake of the region. Frequency of clinically palpable thyroid nodules ranges from 4-7% among different communities [1, 2]. Nearly 5% of thyroid nodules are malign.

The most common thyroid carcinoma is papillary thyroid carcinoma and it is seen at a rate of 80%. Female/Male ratio varies between 2/1 to 3/1 [3, 4]. In medicine, there are controversies over diagnosis and treatment modalities of thyroid nodules. There are many on going studies for forming a diagnosis and treatment algorithm.

In this study, data of 34 patients who underwent surgery for thyroid pathology in 3rd ENT clinic of Ankara Numune Training and Research Hospital between August-2005 and July- 2010 were analysed retrospectively and preoperative findings, histopathological diagnosis and post-operative complications were evaluated.

MATERIALS AND METHODS

34 patient who underwent surgery for thyroid pathology in 3rd ENT clinic of Ankara Numune Training and Research Hospital between August-2005 and July-2010 were enrolled in the study.

Age, sex, admission symptoms, preoperative USG results, fine needle aspiration biopsies, surgical methods, histopathologic results, post-operative complications and additional interventions of patients were examined retrospectively and recorded.

RESULTS

Of 34 patient involved in the study, 22 (64.7 %) were female and 12 (35.5 %) were male. Among the patients who were operated youngest was 24 and the oldest was 75 and calculated mean age was 44.5.

According to admission symptoms, 30 out of 34 patients (88.23 %) have consulted with protuberance on the neck. 1 (2.94%) patient was operated due to papillary carcinoma metastases based on pathology of FNAC taken from lateral servical region. Rest 3 (8.83%) patient had no complaint. Of those 3 patients, 2 of them had papillary carcinoma metastases discovered in neck dissection materials with supracricoid laryngectomy. The other patient was a case which unilateral thyroidectomy was added to total laryngectomy material in consequence of subglottic extension and later medullary thyroid carcinoma was detected.

Thyroid nodules were evaluated according to size, microcalcification and echogenity on ultrasonography.

Sonographically in 4 patient 0-1 cm nodule was detected and of these 4 patients 1 was multinodular and 4 nodules were hypoechogenic. No calcification was detected among these 4 patients. 1-2 cm nodule was detected in 9 (26.47 %) patient, 5 of them were multinodular. Among these 9 patient 5 of the nodules were hypoechoic, 3 were isoechoic and 1 was in mixed echo. Microcalcification was observed in 2 of 9

patients. 2-3 cm nodule was detected in 8 (23.5 %) patient, 7 of them were multinodular. Among these 8 patient 6 was in mixed echo and 2 of the nodules were hypoechoic. Microcalcification was observed in 2 of those 8 patients. 3-4 cm of multinodularity was detected in 6 (17.64 %) patients. 4 of the nodules were in mixed echo, 1 was isoechoic and 1 was hypoechoic. One patient had (2.94%) hyperechoic and noncalcific multiple nodules of which the biggest one was 4-5cm.

In one patient (2.94 %) mixed echoic and noncalcific multinodularity was detected and the biggest nodule was 5-6 cm. One patient (2.94 %) had microcalcific mixed echoic multinodularity and the biggest nodule was 5-6 cm. In one patient (2.94 %) hyperechoic and microcalcific multiple nodules was observed and the biggest nodule was 7-8 cm.

Thyroid ultrasonographies of three patients were normal. Two out of these 3 patients were operated as a result of papillary cercinoma metastases detected in neck dissection specimen with supracricoid larengectomy. The other patient was a case which unilateral thyroidectomy was added to total larengectomy material in consequence of subglottic extension and later medullary thyroid carcinoma was detected in thyroidectomy specimen.

Preoperatively FNAC was performed to patients. Results of FNAC are shown on Table 1 and operations are shown on Table 2. Pathology distribution by patients could be seen on Table 3. Postoperatively, cases verified to be malign according to pathology results were discussed in the endocrinology, general surgery and ENT council. Radioactive iodine treatment was decided to be given to 12 (35.29 %) patients.

Tracheotomy was performed to one patient (2.94 %) who had bilateral vocal cord paralyses after thyroidectomy. During the follow up of this patient on postoperative second month one vocal cord had gained motion again and rima glottis come to effective opening so tracheotomy was closed. One patient (2.94 %) had one sided temporary vocal cord paralyses. In one patient (2,94 %) on post-operative 10th hour hematoma of the neck has occured and it was drained and hemorrhage control was provided. Two patients (5.88 %) have developed hypocalsemia symptoms post-operatively and calcium replacement treatment have been administered. No mortality was seen in the post-operative period (Table 4).

Table 1: Histopathologic results of FNAC

FNAC	n (%)
Benign	16 (% 47)
Suspicious	5 (%14.7)
Malign	6(%17.65)
Hurtle cell lesion	3(%8.83)
Undone	4(%11.76)

Table 2: Operations and rates

Operation	*n (%)*
Hemithyroidectomy	1(%2.94)
Total thyroidectomy	17 (% 50)
Complementary thyroidectomy	2 (% 5.88)
Complementary thyroidectomy + central neck dissection	1 (%2.94)
Total thyroidectomy + central neck dissection	3 (% 8.83)
Total thyroidectomy + central neck dissection + unilateral functional neck dissection	7 (% 20.58)
Total thyroidectomy + central neck dissection after supracricoid laryngectomy	2 (%5.88)
Complementary thyroidectomy + central neck dissection after total laryngectomy and bilateral neck dissection	1 (%2.94)

Table 3: Pathology results

Pathology Results	n (%)
Papiller carcinoma	11(%32.35)
Papiller microcarcinoma	5(%14.7)
Foliculer adenoma	2(%5.88)
Noduler hyperplasia	13(%38.23)
Meduller carsinoma	1(%2.94)
Hashimoto thyroiditis	2(%5.88)

Table 4: Complications

Complications	*n*
Hematoma	1
Unilateral vocal cord paralysis	1
Bilateral vocal cord paralysis	1
Hypocalcemia	2

DISCUSSION

Thyroid diseases are a widely seen morbidity in our country and world [5]. Detection of nodules up to 35-50 of population in ultrasonography and autopsy studies and small nodules in ultrasonography of normally palpated glands shows the extensity and importance of nodular goitre.

Prevalance of clinically palpated thyroid nodules in society differs between 4-7 % [1, 2]. Nodular thyroid diseases are more common than thyroid carcinomas. Despite the fact that malignity rates are low in thyroid nodules, when the frequency of thyroid nodular disease is considered the differential diagnosis and malignity risk of nodules should be investigated.

There is no consensus upon the ultrasonographic discrimination of thyroid nodules for malign or benign. However, under the light of ultrasonographic datas for discrimination of thyroid nodules as malign and benign FNAC is widely used as the most important procedure [6].

Ravetto *et al.* has published retrospective evaluation of 37895 patients in 2000 and has found FNAC sensibility as 91.8 % and sensitivity as 75.5 % [7]. Our results have come up parallel to previous literature. FNAC is the major method used in surgical patients due to its usefulness and, dependable and acceptable results.

It increases with age in iodine poor regions and raises to 23 % in men and 46 % in women. In our series of patients who were operated for nodulary goitre 9 were women and 4 were men and this result is compatible with literature showing women predominancy in the disease.

Thyroid cancers are rare and they consist less than 1 % of all malign neoplasies. And only 5-17 % of thyroid nodules are malign [9, 10, 11]. In our study 50 % malignity was found and this was conditioned to being a reference hospital and patients who were diagnosed as malign were reffered to our clinic.

According to studies carried out in USA, thyroid carcinoma incidence increases in the last 20 years based on the improvements in imaging techniques and FNAC. These studies points that 90 % of thyroid carcinomas are well-differentiated thyroid carcinomas [12]. In our study, fine needle aspiration biopsies were performed to all patients before surgery and 16 out 17 malign cases were well-differentiated thyroid carcinoma.

Incidence of papillary thyroid carcinoma rises with external radition doses [13]. When the literature after chernobyl disaster is surveyed, it has been monitored that leucemia incidence increases in children and thyroid carcinoma incidence increases in adults [14]. After the atomic bombing of Hiroshima and Nagasaki, thyroid carcinoma rates have increased [15]. Also radiotherapy to neck increases the thyroid carcinoma incidence [16]. In our study, microcalcification was detected in nodelus of a patient 3 years after radiation therapy to neck. The patient was diagnosed as papillary carcinoma after FNAC.

RAI ablation targets to destroy the residual thyroid tissue and micrometastases. RAI treatment adjuvant to cancer surgery is generally given to patients who have undergone total or near total thyroidectomy. In other words, RAI treatment is a choice in patients who are in moderate and high risk group, and who has residual and/or metastatic disease [13]. Radioactive iodine treatment was given to 12 patients in our study.

Hematoma in thyroidectomy space is a complication that requires emergent operation because it can result in dispnea due to laryngeal edema and tracheal impression. Most frequently observed symptoms are dispnea, sensation of pain and pressure, disphagia and leakage from wound [17]. In our study hematoma drainage and hemorrhage control was made to one patient (2,94%)on post-operative 10th hour. High rate was considered as a result of low sample volume.

Thyroidectomy surgery is the most common cause of bilateral vocal cord paralyses. Nevertheless, a study suggests after 1980 thyroidectomy surgery is in the 3rd row in bilateral vocal cord injury factors after trauma and malignancy [18]. Exposure of recurrent laryngeal nerve and careful dissection reduces the risk of permanent injury. The surgent must take in consider the presence of a possible nonrecurrant nerve. One sided recurrent nerve injury causes breathless and low volume speaking and vocal cord is positioned paramedianly. In our study one-sided vocal cord paralyses was seen in one patient (2,94 %). Vocal cords are in paramedian position after bilateral recurrant nerve injury. Subject to this respiratuary stridor is seen. In our series tracheotomy was performed in one case (2.94 %) which faced bilateral vocal cord paralyses

after thyroidectomy. During the clinical follow-up of this patient one vocal cord has gained movement again so tracheotomy was closed.

Hypoparathyroidism is one of the mostly seen complications related to thyroid surgery. Clinical presentation of hypoparathyroidism is hypocalcemia symptoms. In a study published by Hundahl et al. hypocalcemia occured in 3.3 % of lobectomy cases, in 6.2 % of near total thyroidectomy cases, in 12.4 % of total thyroidectomy without lymph node dissection cases and in 14.2 % of total thyroidectomy with lymph node dissection cases [19]. In our series 2 patients had temporary hypocalcemia and calcium treatment was administered.

CONCLUSION

At the present time thyroid gland diseases are one of the most encountered endocrine disorders. Ultrasonography and FNAC are guiding techniques for the diagnosis. Complications after thyroidectomy are in a decreasing trend. The most frequent complication is hypoparathyroidism and complications could be avoided by careful dissection and exposure of anatomical structures.

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