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Such High Prevalences of Thyroidectomy Operations Should Be Restricted

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There are many patients who have been operated for Multi-Nodular Goiter (MNG), mostly for risk of malignancy in society. Whereas when ultrasonography is used, prevalence of thyroid nodules may reach up to 67% (Pedrazzini, 2005) and most of them are probably related with Autoimmune Thyroiditis (AT). AT is an organ specific disease characterized by lymphocytic infiltration of the gland and production of autoantibodies directed against thyroid specific antigens. Iatrogenic destruction of the gland and AT represent the most common causes of adult hypothyroidism in iodine-sufficient areas (Vanderpump *et al.*, 1995). It is subdivided into Hashimoto's thyroiditis, Graves' disease and painless thyroiditis, which is also called as postpartum thyroiditis and these subtypes may transform to each other. Patients may apply with hypo- or hyperthyroidism and/or goiter especially with micronodulation (Yeh *et al.*, 1996) and it accounts for 40% of goiter cases in young adults (Dayan *et al.*, 1991). The main diagnostic criterion of AT is the presence of thyroidal autoantibodies, together with an abnormal thyroid-stimulating hormone concentration in serum. In addition to the thyroidal autoantibodies, ultrasonographic pattern can help to identify AT. Multiple and discrete hypoechoic micronodules, changing from 1 to 6 mm in diameter, have been described as strongly suggestive of AT (Yeh *et al.*, 1996). They represent lobules of thyroid parenchyma which have been infiltrated by lymphocytes and plasma cells histologically. On the other hand, thyroid cancer is a rare event and is only seen as 1% of all malign tumours and its medium incidence is 2.1 for 100.000 men and 5.19 for 100.000 women year⁻¹ (Pedrazzini, 2005). In a prospective cohort study of 89.835 Canadian women, aged between 40 and 59 years, only 169 incidental thyroid cancers were observed during a mean period of 15.9 years (Navarro *et al.*, 2005). Additionally, prevalence of thyroid microcarcinomas found at autopsies is even 100-1000 times higher than the clinical cancers and again they seem to be more prevalent in fifth and sixth decades of life as in AT and all microcarcinomas have been of the papillary type (Kovacs *et al.*, 2005). It is already known that there are similarities in morphological features, immunohistochemical staining patterns and molecular profiles of papillary carcinoma of thyroid and Hashimoto's thyroiditis as most common subtypes of both disorders and submicroscopic foci of papillary carcinoma of thyroid must be present in Hashimoto's thyroiditis, although the clinical behaviour is still benign (Arif *et al.*, 2002). Additionally, p63 is commonly expressed both in papillary carcinoma and Hashimoto's thyroiditis and finding of p63 in benign squamoid nests supports a possible relationship between them (Unger *et al.*, 2003).

In a recent study, we took consecutive patients applying to the Internal Medicine Policlinic of the Dumlupinar University for check up procedure between August 2005 and September 2006. Medical pasts including thyroid operations especially for MNG were learnt and a routine check up procedure including Thyroid-Stimulating Hormone (TSH), free Thyroxine (free T4) and free Triiodothyronine (free T3) was performed. An additional thyroid US was performed and anti-TPO and anti-TG Abs were studied just for patients with abnormal thyroidal functions. So all the cases with previous thyroid operations and their underlying etiologies and patients with abnormal thyroidal function tests and AT were detected. The lymphocytic infiltration and disruption of the tissue architecture induced hypoechogenicity and micronodulation are used as the evidences of AT (Gutekunst *et al.*, 1989). US-guided Fine-Needle Aspiration Biopsy (FNAB) was performed just in suspected cases from malignancy. Comparison of proportions was used as the method of statistical analysis to compare prevalences of thyroidal operations for MNG with the chance of thyroid cancer in either sex, separately. Two thousand three hundred and thirty-one cases were studied totally (1205 females and 1126 males). Sixty-two females and nine males had been operated for MNG before, even three of the females operated twice, so there were 65 (5.3%) operations in females and nine (0.7%) in males just to escape from the chance of getting a thyroid cancer in the absence of any sign of malignancy. When we compared these prevalences with the chance of thyroid cancer for either sex, separately, (2.1 for 100.000 men year⁻¹ and 5.19 for 100.000 women year⁻¹ are multiplied by 70, as an expected mean period of life span) (Pedrazzini, 2005), the differences were found as statistically significant in both sexes ($p < 0.001$ for both). So there are many unnecessary thyroidal operations in both sexes in society. Additionally, thirty-one of the operated cases were on L-thyroxine maintenance therapy now. Beside that there were two females who had been operated for Graves' disease before. On the other hand, 233 patients (198 females and 35 males) with abnormal thyroidal functions other than the operated 73 patients were detected totally and 189 (163 females and 26 males) of them were AT. When we added the two operated cases for Graves' disease, 191 (8.4%) cases with AT were detected totally and 86.3% (165) of them were female. Beside that US gave a result of thyroiditis alone in 136 (58.3%), thyroiditis plus partial hyperplasia in six (2.5%), thyroiditis plus MNG in 28 (12.0%), thyroiditis plus solitary nodule in 12 (5.1%), MNG alone in 29 (12.4%) and normal thyroid gland in 22 (9.4%) cases with abnormal thyroidal functions. So MNG or solitary nodule was

detected in 69 (29.6%) of them ultrasonographically. FNAB was performed in thirty-one clinically suspected cases with nodules, but no malignancy was detected histologically.

As a conclusion, thyroid nodules should be evaluated by experienced physicians on the gland. By this way, many unnecessary operations and their costs and complications, including permanent recurrent laryngeal nerve palsy and life long requirement of hormone replacement therapy, can be prevented.

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