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Do all detected thyroid cancers correspond to 'real cancer'?

Editor

Although the global incidence of thyroid cancer was 3.3 and 1.3 per 100 000 population for females and males respectively in 2002, these rates were found to be 10.2 per 100 000 among females and 3.1 per 100 000 among males in 2018^{1,2}. Rising incidence is related to increased use of diagnostic techniques^{3,4}. However, no change was observed in mortality¹. According to health statistics from the Turkish Ministry of Health⁵, thyroid cancer incidence increased from 3.5 to 21.7 per 100 000 for females, and from 0.5 to 6.0 per 100 000 for males in Turkey between 2002 and 2015, leading to concerns about overdiagnosis and overtreatment.

We retrospectively evaluated histopathological characteristics of dominant nodule and non-nodular thyroid tissue from 335 patients (258 females, 77 males) who had undergone thyroid surgery. Among the 335

thyroidectomy specimens, 107 (32 per cent) dominant nodules were malignant, and 228 (68 per cent) were benign. Papillary thyroid microcarcinoma was detected within 26 (24 per cent) malignant dominant nodules, and 51 (47 per cent) patients had malignancy in the non-nodular thyroid tissue. Among specimens harbouring benign dominant nodules, 31 (14 per cent) patients had malignancy in the non-nodular thyroid tissue or within a non-dominant nodule, 19 (8 per cent) of whom were found to have papillary thyroid microcarcinoma.

These findings suggest that diagnosis of papillary thyroid microcarcinoma contributes greatly to the increase in the incidence of thyroid cancer that does not affect eventual mortality, raising concerns about overdiagnosis and overtreatment. Excessive cancer diagnosis and treatment impose a psychological burden on the patient and possible complications, including receiving lifelong thyroid hormone replacement therapy, in addition to the misuse of resources resulting in an economic burden. In light of this, it is necessary to re-evaluate the approach to thyroid cancers using emerging scientific evidence and to even review the definition of thyroid cancer.

O. Alimoglu¹ , H. F. Dilek²,
M. Tonyali² and T. Eren¹ 

¹Department of General Surgery, Faculty of Medicine and ²Faculty of Medicine,

Istanbul Medeniyet University, Istanbul, Turkey

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