

## Simultaneous Papillary and Medullary Carcinoma in the Thyroid Gland

Rıfki Üçler, Gülçin Miyase Sönmez\*, Saliha Yıldız

Department of Endocrinology and Metabolism, Yuzuncu Yıl University, Faculty of Medicine, Van, Turkey

\*Department of Internal Medicine, Yuzuncu Yıl University, Faculty of Medicine, Van, Turkey

### Abstract

**Introduction:** The most common type of thyroid cancers is papillary thyroid carcinoma originating from follicular cells. Medullary thyroid cancer (MTK), a neuroendocrine tumor, is derived from thyroid parafollicular (C cells) cells. These two carcinomas, which incidences, origins of cells, histopathological features and prognosis are completely different, are rarely found together in the thyroid gland.

**Case Report:** A 55-year-old male patient without a known disease other than COPD, had no history of prior radiation to the head or neck and no known family history of any endocrine disease whose on The pathology of the specimen detected a papillary carcinoma oncocytic variant with a tumor size of 7x5.5x5 cm in the left lobe and a medullary microcarcinoma with a tumor diameter of 2 mm in the right lobe. In immunohistochemical studies; CEA, calcitonin, chromogranin, synaptophysin were positive and cytokeratin 19 was focal positive. Vascular invasion, perineural invasion, penetration into the thyroid and invasion of soft tissue outside the thyroid were not observed in the pathological examination of both tumors. Postoperative RAI treatment and TSH suppressive treatment were performed on patient. In the scan after RAI treatment, no metastases were detected. Urine vanillyl mandelic acid, 5 hydroxy indole acetic acid and catecholamine levels were normal. Mutation was not detected in the selected exon sequence analysis of RET proto-oncogen.

**Discussion:** There is a case report in the literature about the existence of RET and BRAF gene mutations in these simultaneous malignancies. RET proto-oncogen mutation detected in hereditary medullary carcinoma cases has also been reported in some papillary carcinoma cases. Therefore, the appearance of these two tumors at the same time suggests that is linked to RET proto-oncogen mutation. Additional studies are necessary to describe the clinical and pathologic characteristics of these patients and to clarify potential biologic relationship between concurrent medullary thyroid carcinoma and papillary thyroid carcinoma.

**Keywords:** Papillary thyroid cancer, medullary thyroid cancer