

# One thyroid, three tumors within: A case of three collision tumors

Selalmatzidou D, Adamidou F, Mintziori G

Department of Endocrinology, Ippokratio General Hospital, Thessaloniki, Greece



## Introduction

Collision tumors of the thyroid are neoplasms of distinct histology located within the same gland. Although rare, the most commonly described collision tumors of thyroid origin are medullary and papillary carcinomas.

We describe a case of co-existence of a benign follicular adenoma in a dominant nodule with a micropapillary and a micromedullary carcinoma in a patient carrying a heterozygous germline RET polymorphism.

## Case report

A 74-year-old woman presented for follow up at the Endocrine Clinic, with a history of thyroidectomy 10 years previously. Surgery had been recommended because of a growing nodule at the isthmus, despite normal cytology at the preceding FNA, biochemical euthyroidism and negative thyroid antibodies. Histological examination revealed a 2.8 cm encapsulated follicular adenoma at the isthmus, a 0.3 medullary thyroid carcinoma in the right thyroid lobe with evidence of infiltration of surrounding follicles and microscopic lymphatic vessel infiltration and a 0.3 cm classic type papillary thyroid carcinoma in the left thyroid lobe.

The patient's past medical history is notable for rheumatoid arthritis and Sjogren's syndrome with associated pulmonary disease and a non-functioning left adrenal adenoma. There was no evidence of MEN2 features other than MTC in our patient, nor in any family members.

On ultrasound examination, a 1.4 cm vascularized remnant was visible in the left thyroid bed, with no evidence of cervical lymphadenopathy.

Biochemical testing showed normal calcitonin at 3.23 pg/ml (<4.8), TSH 0.56 on L- thyroxine 88 µcg daily, thyroglobulin <0.2 ng/ml and negative anti-TG.

RET oncogene direct sequencing revealed a germline G691S/S904S polymorphism in heterozygosity.

G691S in exon 11 και  
S904S in exon15



## Conclusion

The RET G691S/S904S polymorphism has been postulated as genetic modifier of MEN2A, although the association of this haplotype with MTC and, moreover, with follicular neoplasia, remains unknown.

## References

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