

SYNCHRONOUS NECK MELANOMA AND PAPILLARY THYROID CANCER: A CASE REPORT

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ABSTRACT

The synchronous malignant melanoma of the neck and papillary thyroid cancer is rare but severe condition. Here, we describe the case of a patient with papillary thyroid cancer and melanoma in-vasivum cutis. A 49-year-old man had a change on the neck at the last 3-4 months that he accidentally noticed. He had hoarse voice, was afebrile, did not sweat more than usual and feel exhausted, without rash or itching. MR examination of the neck and upper mediastinum before the surgery indicated a hyperintense focal change in the left thyroid gland which dimensions was 19·15mm and several hyperintense inhomogeneous lymph glands of the jugular chain, on the both sides, with different sizes. On the basis of the conducted analyzes, in addition to total thyroidectomy, two-sided functional dissection of the lymph nodes of the neck was performed. The pathohistological diagnosis of the left lobus was: Carcinoma papillary glandulae thyreoideae invasivum (G-I, nG-I, pT2, Lx, Vo). CT of head, neck and thorax were made, where it was noticed that the CT of the head and lungs were normal. PET/CT findings indicated that there was no rest or recurrence of the tumor. The message from this case report is that when diagnosing and treating thyroid cancer, the observed changes in the neck lymph nodes also indicate cancers of non-thyroid pathology such as malignant melanoma.

Keywords: Papillary thyroid cancer, malignant melanoma, lymph nodes.



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INTRODUCTION

Worldwide malignant melanoma is the commonest tumor of the skin, though it occurs in many other organs. Malignant melanoma is a skin cancer that is caused by the malignant transformation of melanocytes. Melanocytes are neural crest-derived cells that migrate to the skin, mucous membranes and several other sites. The incidence of melanoma has been steadily increasing in the past several decades with an annual increase of 3-8% worldwide (1). Most common form of melanoma are the cutaneous and the ocular form. It occurs slightly more often in males 2.8:1 male to female ratio and the age range is from 20-83 years with an average age of 56 years (2). Malignant melanoma can be successfully treated if it is detected in the early stages of development. Surgery is the standard treatment for early stage melanoma. However, the prognosis associated with advanced-stage malignant melanoma is poor; the disease accounts for ~4% of all skin cancers, but results in 80% of skin cancer-associated mortality (3, 4).

The clinical presentation of this condition may vary widely which is divided into following five types: Pigmented nodular type, pigmented macular type, pigmented mixed type, non-pigmented nodular type and non-pigmented mixed type (5-7).

On the other hand, cancers of a thyroid gland are the most frequent endocrine cancers, and this is known over a decades (8). Unlike other forms of thyroid cancers (medullary, follicular and anaplastic), whose occurrence remained almost the same over time, the incidence of papillary thyroid cancer strongly increased (9). Indeed, the vast majority of thyroid malignant tumors belong to papillary cancers (around 90%) (10). To date, several factors have been identified to potentiate the occurrence papillary thyroid cancer such as Hashimoto thyroiditis, other thyroid diseases, and early exposure to ionizing radiation (11, 12). Moreover, some evidence indicate that thyroid malignancy can be found more often after other primary cancers, as consequence of radiation therapy or even without it (13, 14). Therefore, much attention has been paid to the assessment of the risk for developmental of thyroid cancers on the field of existence of non-thyroid malignancies. Nevertheless, there are almost no literature data describing synchronous thyroid cancer and additional malignancy.

Here, we describe the case of a patient with synchronous neck melanoma and papillary thyroid cancer.

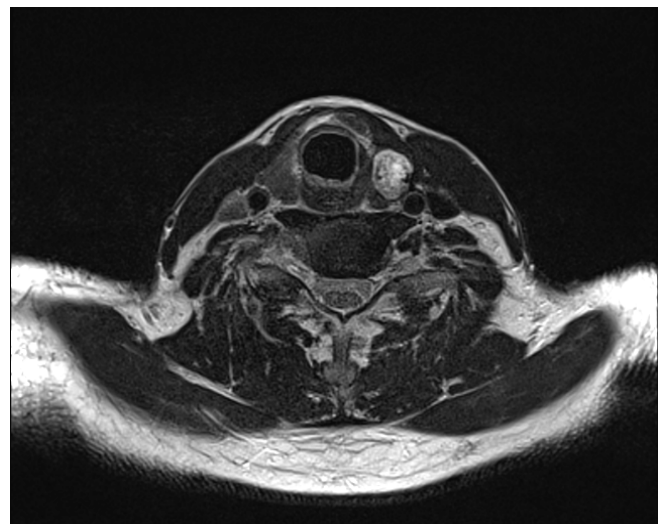
CASE REPORT

A 49-year-old man had a change on the neck at the last 3-4 months that he accidentally noticed. He had hoarse voice, was afebrile, did not sweat more than usual and feel exhausted, without rash or itching. At physical examination following was observed: on the neck - right angularly palpable one lymphatic gland (size 1,2 cm, hard painless, weakly

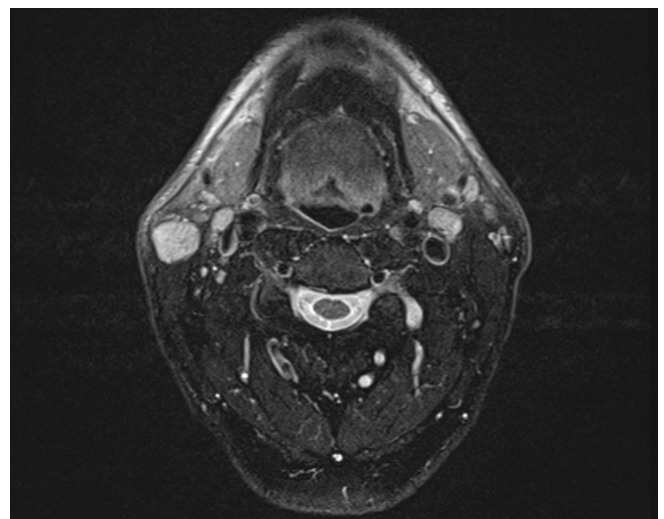
movable), left submental palpable one deep and more tiny single painless lymphatic gland. Supraclavicular and axillary without significant lymphatic glands, spleen palpable to 1 cm, without lymphatic glands in inguinal region, liver not enlarged, airway noise intensified in the lungs.

MR examination of the neck and upper mediastinum before the surgery indicated a hyperintense focal change in the left thyroid gland which dimensions was 19 x 15mm (AP-LL) (Figure 1A) and several hyperintense inhomogeneous lymph glands of the jugular chain, on the both sides, with different sizes (Figure 1B).

Figure 1. MR examination of the neck soft tissues. The examination was performed in the axial section and T2W FS sequences.



A) In the left lobe of the thyroid gland there is a clearly separated hyperintense focal change in size 19 x 15 mm (AP-LL). It does not penetrate the thyroid capsule.



B) In level A and 5A there are several hyperintense inhomogeneous lymph glands on both sides, with different sizes - show pathological signal intensity.

Ex tempore analysis indicated that the right lobe was benign, the left lobe was malignant, and the nodus of the right jugular chain was malignant. The pathology report showed that the nodus was most likely malignantly altered due to melanoma and advised to examine the skin of the head and neck intraoperatively. On that occasion pigmented nevus of right tragus was discovered, removed by excision, and confirmed to be malignant. On the basis of the above findings, in addition to total thyroidectomy, two-sided functional dissection of the lymph nodes of the neck was performed. After the operation, Letrox tablets was prescribed a 100 mg 1·1.

The pathohistological diagnosis of the skin with a tumor on a baseline of 15·13·12 mm, light brown color, uneven pigmentation was as follows: Melanoma nodular cutis invasivum (G-II, pT4bN1 (1 + / 4In), Breslow-3, Clark-III, L+, Vx, Ro. Ulceration of surface tumor was present, with peritumoral lymphocytic infiltration. Mitotic index was 4/10HPF, pigment production was minimal with dominant vertical growth phase. The pathohistological diagnosis of the left lobe was: Carcinoma papillary glandulae thyreoideae invasivum (G-I, nG-I, pT2, Lx, Vo). The pathohistological diagnosis of the right lobe was: Struma colloides cystica diffusa glandulae thyreoideae.

During the first CT of head, neck and thorax it was noticed that head and lungs imaging were normal. In the neck region at the height of the oropharynx, alongside the marginal blood vessels, there was one lymph node of 7 mm in size on both sides. Thyroid scintigraphy had shown that there was no accumulation of radioactive iodine and above the thorax finding was neat. A year later, PET/CT of the whole body was made (from the base of the skull to the proximal parts of the femur). Scanning of the entire body was done 60 minutes after i.v. injection of 9 mCi fluorodeoxyglucose with fluorine-18 (¹⁸FDG). PET/CT findings indicated that there was no rest or recurrence of the tumor.

Ultrasound of the neck was done a year after the PET/CT scan. Right in the region of the lower half of the parotid and lateral half of the submandibular gland, three changes were noticed. The largest lymph gland of clear contours was hypoechoic structure, diameter 26·9 mm with a clear separation of the cortical layer of the thin and slightly echogenic central matrix. Another lymph gland was with oval structure and diameter of 9·5 mm, and the third was in the parotid parenchyma with diameter of 12·4 mm. In the left region of the lateral half of the submandibular gland was the lymph gland of diameter 15·4mm. There were no signs of recurrence in the thyroid box region. Supraclavicular and the lateral neck chains did not had signed lymph nodes. Taking into account that right submandibular lymph nodes were 26 mm of diameter, and MR inspection was scheduled. The results of thyroid hormones and antibodies were following: PTH intact-55,4 pg/ml (15-65 pg/ml); TSH-78,629 uIU/ml (0,27-4,20 uIU/ml); TT4-0,53 nmol/l (66,0-181,0 nmol/l); TT3-0,45nmol/l (2,7-3,87 nmol/l); Anti Tg-12,5 IU/ml (< 115 IU/ml); TG-0,538 ng/ml (1.4-78 ng/ml). TSH was elevated

while TT4, TT3 and TG were lower than reference values. The dose of Letrox was increased to 150 mg daily.

MR imaging after total thyroidectomy and malignant melanoma surgery did not showed detectable recurrence of the tumor.

DISCUSSION

This case illustrates the presentation, diagnosis, and treatment of a patient with synchronous neck melanoma and papillary thyroid cancer. Literature data have shown that multiple cancers of head and neck are not infrequent malignancies and their incidence is raising (15, 16). Incidence for development of another primary cancer after discovering of the first malignancy, for synchronous cancers is 15 % (17). A careful and systematic triage is thus of the great interest for these patient. Some studies pointed out that synchronous cancers can be detected in 9-14% of patients during routine screening (17).

Malignant melanoma is an aggressive cutaneous melanocytic neoplasia. Although melanoma most commonly metastasizes to regional lymph nodes, mortality from melanoma is due primarily to distant spread to visceral organs, commonly the lungs, liver, and brain (18-20). Considering that metastasis to the thyroid gland is a very rare, after pathohistological analysis of thyroid malignanant tissue diagnosis of synchronous cancers can be confirmed, as seen it this case report.

According to their primary site, melanomas are grouped as cutaneous, ocular, mucosal, and of unknown origin; of all, mucosal melanomas are the least frequent ones (21). Head and neck mucosal melanomas (HNMMs) comprise 0.7% to 0.8% of all melanomas and less than 10% of all head and neck melanomas (22). Malignant melanoma is an aggressive cutaneous melanocytic neoplasm which often metastasizes to regional lymph nodes but whose mortality is mainly determined by tumor dissemination to visceral organs such as the lungs, liver, and brain. Although rare, HNMMs are very aggressive malignant tumors, and their prognosis is worse than that for cutaneous and ocular melanomas (23). However, the occurrence of another primary tumor such as papillary thyroid cancer complicates the diagnostic and therapeutic approach, while the clinical signs may be asymptomatic (24). The prevalence of synchronous non-thyroidal cancers in patients on surgical therapy of papillary thyroid cancer is approximately 14 % (25). The third most frequently associated synchronous non-thyroidal cancers is melanoma (26). When comparing with patients without another malignancy, those with an non-thyroidal cancers were elderly (56.4 ± 15.5 years) and had been exposed to radiation (27). Studies have shown that pathohistological features of papillary thyroid cancers are similar in patients with non-thyroidal cancer compared with ones in patients without additional malignancy (26, 27). Despite the fact that patients with an non-thyroidal cancers were detected at a more severe level of disease than those without, additional estimation of each TNM category have shown absence of statistical distinction in the

primary tumor size, or the rate of nodal or distant metastases. (27).

Having in mind that clinical signs of patients with papillary thyroid cancer are similar to those without accessorial non-thyroidal cancers, they thus must be managed equivalently. Furthermore, surgeons should rise attention of the incidence of synchronous papillary thyroid cancer with these types of cancers and take into account assessment of the neck during thyroidal cancer diagnosis.

Treatment of thyroid malignancies is primarily surgical, but the decision to operate on the patients will depend on their clinical condition, the primary site of the original tumor, presence of other metastases, the degree of dissemination, and symptoms caused by the thyroid mass (25, 26). Surgery may also be important as a palliative treatment to relieve symptoms, particularly those associated with airway compression. No consensus exists on the extent of the surgery, and most authors recommend that isthmectomy and lobectomy be performed in cases with isolated nodules, whereas total or near-total thyroidectomy should be performed in cases with multifocal disease (28).

CONCLUSION

The message from this case report is that when diagnosing and treating thyroid cancer, the observed changes in the neck lymph nodes also indicate cancers of non-thyroid pathology such as malignant melanoma.

Surgeons should rise attention of the incidence of synchronous papillary thyroid cancer with neck melanoma and take into account assessment of the neck during thyroidal cancer diagnosis. This approach will therefore strongly contribute to the prolonged survival in these patients and prevention of rapid onset of life-threatening complications.

CONFLICTS OF INTEREST

The authors declare no financial or commercial conflicts of interest.

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