

Unsuspected melanoma misdiagnosed as anaplastic thyroid carcinoma in fine-needle aspiration biopsy

Ewelina Szczepanek-Parulska¹, Katarzyna Piątek¹, Przemysław Majewski², Rafał Czepczyński¹, Julita Narożna³, Marek Ruchała¹

¹ Department of Endocrinology, Metabolism and Internal Medicine, Poznan University of Medical Sciences, Poznań, Poland

² Department of Clinical Pathology, Poznan University of Medical Sciences, Poznań, Poland

³ Greater Poland Cancer Centre, Poznań, Poland

Clinical studies showed that the incidence of thyroid nodules diagnosed by an ultrasound examination ranges from 19% to 67% of the population.^{1,2} Most of the malignant lesions found in the thyroid are primary thyroid cancers and thyroid metastases are most often overlooked.³ Metastases of malignant melanoma (MM) to the thyroid gland are extremely rare.

A 54-year-old Caucasian woman underwent a routine subtotal thyroidectomy in May 2010 owing to a follicular lesion, which turned out to be a follicular adenoma based on histopathological findings. In March 2011, the patient noticed a lump on the right side of the neck. A fine-needle aspiration biopsy (FNAB) of the nodule found in the right thyroid bed was consistent with the suspicion of an anaplastic thyroid cancer. In May 2011, the patient was admitted to our clinic. Owing to a short period of time between the subtotal thyroidectomy and the reoccurrence of goiter, we suspected that the first lesion was in fact a follicular cancer. Therefore, repeated examination of the surgical specimen was performed, which confirmed the previous diagnosis of a follicular adenoma.

On admission, the patient's condition was good. The examination revealed a nodule on the right side of the neck. It was stiff on palpation and had 1.5 cm in diameter. Cervical ultrasonography visualized a hypoechoogenic nodule in the right thyroid bed and enlarged occipital lymph node. Both lesions showed increased stiffness on sonoelastography (FIGURE 1A). The FNAB of both lesions was performed. Thyroid scintiscan revealed the remnants of the left thyroid lobe and no radioisotope uptake on the right side. We then accidentally noticed a skin mark on the woman's left temple (FIGURE 1B). A consulting dermatologist raised

the suspicion of an MM, and biopsy of the skin nevus was performed. Cytological diagnosis of the neck lesion and suspected lymph node confirmed the presence of MM metastases (FIGURE 1C), while the skin biopsy was nondiagnostic. In June 2011, the patient was referred to the Greater Poland Cancer Centre for further diagnostic work-up and treatment. Positron emission tomography

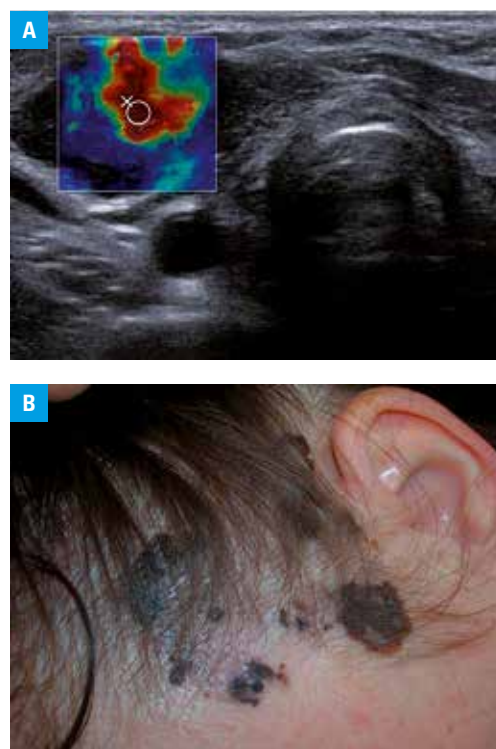
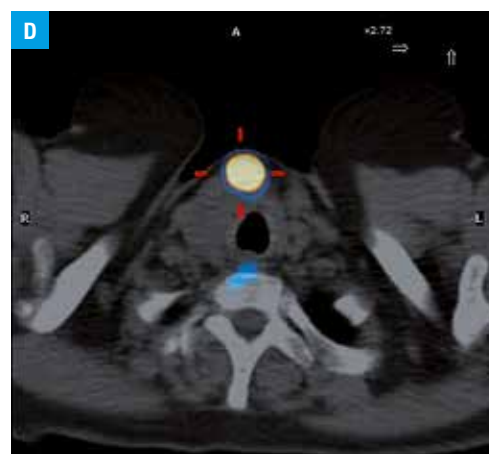
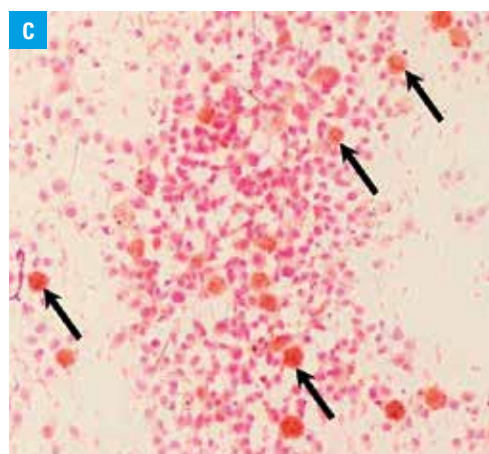


FIGURE Malignant melanoma shown on:
A – a conventional ultrasound image and sonoelastography of a recurrent lesion in the right thyroid bed;
B – a picture of the skin mark on the left temple

Correspondence to:
 Prof. Marek Ruchała, MD, PhD,
 Katedra i Klinika Endokrynologii,
 Przemiany Materii i Chorób
 Wewnętrznych, Uniwersytet
 Medyczny w Poznaniu,
 ul. Przybyszewskiego 49,
 60-355 Poznań, Poland,
 phone: +48-61-869-330,
 fax: +48-61-869-16-82,
 e-mail: mruchala@ump.edu.pl
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FIGURE Malignant melanoma shown on: **C** – a microscopic image of the specimen obtained by fine-needle aspiration biopsy of the thyroid lesion (H&E staining, original magnification, $\times 100$); arrows indicate multiple melanocytes among thyroid follicular cells confirming the diagnosis of malignant melanoma metastasis to the thyroid gland; **D** – positron emission tomography scan of the neck, indicating malignant melanoma metastasis to the right thyroid bed



revealed disseminated neoplastic disease, with multiple metastases, including those formerly diagnosed, to the right thyroid bed (FIGURE 1D) and occipital lymph nodes. The patient died of massive metastases to the central nervous system 2 months later.

In any patient with a history or suspicion of nonthyroid malignancy, a new thyroid mass might suggest metastasis. FNAB may help discriminate between primary and metastatic thyroid neoplasms. Information about patients past medical history helps the pathologist make proper diagnosis. Preoperative diagnosis of the metastasis and staging of the neoplastic disease might help avoid unnecessary thyroidectomy. MM metastasis to the thyroid is rarely isolated and often constitutes an evidence of disseminated disease. It might be the first symptom and lead to the diagnosis of MM. Although its metastasis to the thyroid gland is indicative of poor long-term survival, aggressive surgical treatment might be beneficial in some cases.^{4,5}

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