What are the multimode sonographic features of adenoid cystic carcinoma metastasized to the thyroid?

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To the Editor: Adenoid cystic carcinoma (ACC) is a rare tumor, accounting for approximately 1% of all head and neck malignant neoplasms. ACC typically arises in the major and minor salivary glands. Despite poor growth, frequent local recurrence and late distant metastasis have been reported. The organs most frequently involved include the lungs, bones, brain, and liver, whereas metastasis to the thyroid is relatively rare. Herein, we reported a case of metastasis to the bilateral thyroid lobe in a 42-year-old woman with ACC of the submaxillary gland that was excised 2 years ago. The main aim of the present case was to focus on the ultrasonic and elastography features of thyroid metastasis from ACC when ultrasonography is the first means to diagnose a thyroid nodule.

A 42-year-old female patient presented with a 5-month history of a left neck mass. She underwent surgery followed by radiation and chemotherapy 2 years ago due to ACC of the left submaxillary gland. On physical examination, a hard, fixed, painless nodule was noted on the left neck that was growing moderately and did not move when swallowing. The result of skin examination was normal.

A contrast computed tomography showed some soft tissue density masses in the bilateral neck. In addition, multiple lung metastases were also observed. Two slightly low-density lesions of undetermined origin were noted in the thyroid. A sonography of the thyroid revealed 2 homogenous hypoechoic nodules in the upper poles and middle of the gland. The sonographic features of the 2 nodules were solid, oral, well circumscribed, and wider than tall [Figures 1 and 2]. The max lengths of the left and right nodules were approximately 0.7 cm and 0.8 cm, respectively. Further examination with contrast sonography and shear wave elastography (SWE) showed a hypoenhanced and medium-to-hard lesion [Figures 1 and 2]. The max lengths of the left and right nodules were approximately 0.7 cm and 0.8 cm, respectively. Further examination with contrast sonography and shear wave elastography (SWE) showed a hypoenhanced and medium-to-hard lesion [Figures 1 and 2]. Regarding SWE parameters, $F_{\text{max}}$, $F_{\text{min}}$, $F_{\text{mea}}$, and the ratio were 81.1 kPa, 20.6 kPa, 46.3 kPa, and 2.7, respectively, in the right nodule. These values were 88 kPa, 8.2 kPa, 47.4 kPa, and 4.1, respectively, in the left nodule. A 2.8-cm palpable nodule was noted in the operative area. In addition, another nodule 2.3 cm in length was noted beneath the sternocleidomastoid muscle and was nonpalpable. Lymphatic nodes at level III and level IV were abnormal. The max diameter of the lymph node was 0.8 cm.

After ultrasonic examination, the patient underwent sonography-guided fine-needle aspiration of the thyroid nodule. The cytologic result indicated ACC. She then underwent a thyroidectomy and neck dissection. The final histopathologic examination after surgery confirmed that all the nodules in the thyroid and the operative area, as well as the lymphatic nodes, were ACC metastases.

ACC is a rare tumor of the head and neck region, and the common regions of distant metastasis include lung and bones. Metastasis is an important prognostic factor. Radiological investigations, such as computed tomography scans, are important to identify recurrence during postoperative follow-up. To the best of our knowledge, the study regarding the conventional ultrasonic and elastic features of thyroid metastasis from ACC is rare.

In general, malignant thyroid nodules typically originate from thyroid tissue, and thyroid metastatic cancers account for 1.4%–3.0% of all thyroid malignancies. Specifically, renal cell carcinoma is the most common site of origin. Thyroid metastasis from ACC is relatively uncommon.

In this report, the 2 metastatic nodules mimicking benign thyroid nodules were identified using conventional ultrasonography. Ultrasonic features include solid, oral, and well-circumscribed lesions that were wider than tall and did not exhibit calcification. None of the features indicated a tendency of malignancy. However, shear wave elastographic images revealed that the 2 masses were much stiffer than the surrounding normal thyroid tissue with a...
maximum elasticity of 88.0 Kpa and 81.1 Kpa. These values were also stiffer than benign thyroid nodules as reported in previous studies.[5,6] The 2 nodules in this report indicated heterogeneous enhancement and hypo-enhancement in contrast-enhanced ultrasonographic examination, which was consistent with most malignant thyroid nodules rather than benign nodules.[7]

In conclusion, SWE combined with contrast-enhanced ultrasonography might exhibit potential value for ACC metastasized to the thyroid, and these new ultrasonography techniques might represent supplementary methods to computed tomography to confirm the diagnosis.

Declaraton of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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Corrigendum

Corrigendum: A Randomized, Double-Blind, Multicenter, Placebo-Controlled Trial of Qi-Zhi-Wei-Tong Granules on Postprandial Distress Syndrome-Predominant Functional Dyspepsia

In the article titled “A Randomized, Double-Blind, Multicenter, Placebo-Controlled Trial of Qi-Zhi-Wei-Tong Granules on Postprandial Distress Syndrome-Predominant Functional Dyspepsia”, published on page 1549–1556, Issue 13, Volume 131 of Chinese Medical Journal, the affiliation of authors and address for correspondence is written incorrectly as “Department of Gastroenterology, Wuhan Union Hospital of Huazhong University of Science and Technology, Wuhan, Hubei 430000, China” instead of “Department of Gastroenterology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei 430022, China”.

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