Case Reports

Unusual Metastatic Spread of Follicular Thyroid Carcinoma: Report of a Case

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We herein present a rare case of metastatic follicular thyroid carcinoma in a 72-year-old woman who presented with a lumpy lesion in the right supraorbital region.

Case Report

A 72-year-old woman presented with a painless swelling in the right supraorbital area, which she attributed to an accident 2 months earlier. On physical examination the mass was nontender, with a cyst-like consistency. During a careful examination of the neck a palpable lesion was identified in the right lobe of the thyroid gland, with no evidence of cervical lymphadenopathy. Fine-needle aspiration (FNA) of both lesions revealed thyroid carcinoma of follicular type. A thorough evaluation was then made. Blood tests, including a full blood count, erythrocyte sedimentation rate, calcium and phosphate levels, and thyroid function tests were all within the normal limits. Serum thyroglobulin (TG) was extremely high (29,000 ng/ml). Thyroid ultrasound demonstrated a 3.5 × 5-cm lesion, with solid and cystic elements, without any evidence of regional lymph node enlargement. The chest X-ray findings were normal. A CT scan of the skull showed an erosion of the frontal bone (Fig. 1), whereas a CT scan of the upper abdomen demonstrated a solitary lesion located in the right lobe of the liver, measuring 6 cm in size, which was possibly of metastatic origin. A CT scan-guided FNA biopsy of the lesion was then performed, and the pathology findings were compatible with metastatic follicular thyroid carcinoma (Fig. 2).

The patient underwent a total thyroidectomy and a wide local excision of the skull lesion with reconstruction. The postoperative course was uneventful and the patient was discharged on the 3rd postoperative day.

A pathologic examination of the thyroid specimen showed a well-differentiated thyroid carcinoma of

Abstract
Concurrent skull and liver metastases from follicular thyroid carcinoma is a very rare event. We herein present the case of a 72-year-old woman who initially presented with a swelling in the right supraorbital region that proved to be metastasis from a well-differentiated follicular thyroid carcinoma of clear-cell type. The metastatic workup disclosed a huge liver metastasis and an additional metastasis in the left iliac fossa. The treatment of this patient included a total thyroidectomy, an excision of the skull lesion, and the administration of radioiodine therapy, as well as thyroid-stimulating hormone (TSH) suppression therapy. However, the course of her disease was relentless. Although well-differentiated thyroid carcinoma tends to show an excellent course, the presence of metastatic disease leads to a very dismal prognosis.

Key words Thyroid cancer · Metastasis · Skull · Liver

Introduction
Follicular carcinoma accounts for 10%–20% of all thyroid malignancies and it tends to occur more frequently in older patients, over 40 years of age. These tumors are composed of pure follicular elements or oxyphilic cells (Hurthle cells) and most commonly metastasize through the bloodstream to the bones, lung, liver, kidney, and breast. In comparison with the papillary type of well-differentiated thyroid carcinomas, it also tends to be more aggressive. Cutaneous metastases are extremely rare, and they are mostly located in the head and neck.

We herein present a rare case of metastatic follicular thyroid carcinoma in a 72-year-old woman who presented with a lumpy lesion in the right supraorbital region.

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follicular type with extensive capsular and vascular invasion. Similarly, the skull lesion was metastatic of follicular thyroid carcinoma of clear-cell type.

The patient was deprived of thyroid hormone and iodine for 1 month and then a whole-body scan with iodine-131 was performed. In an attempt to control her disease more effectively with radioiodine therapy, we recommended a resection of the liver metastasis. However, the patient refused to undergo an operation or even to receive radioiodine therapy although she was on thyroid-stimulating hormone (TSH) suppression. Four months later an abdominal magnetic resonance imaging scan demonstrated a remarkable increase in the size of the liver mass (12 cm) and an additional metastatic deposit in the left iliac fossa (Figs. 3 and 4). A chest CT scan also showed mediastinal lymph node enlargement.

The patient was then treated with 200µCi I-131 and advised to continue with L-thyroxine therapy. The patient eventually died 14 months after undergoing the thyroidectomy.

**Discussion**

Both papillary and follicular thyroid carcinomas represent slow-growing tumors with a good overall prognosis. The development of cutaneous metastasis, although rare, is often associated with distant metastatic disease to other organs, resulting in a very dismal prognosis and eventually to the death of the patient.6-8

According to the literature, the incidence of cutaneous metastases at the first presentation of solid tumors

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**Fig. 1.** Computed tomography of the skull showing a metastatic lesion with erosion of the underlying bone

**Fig. 2.** Clusters of malignant follicular cells with abundant clear cytoplasm and prominent nuclei (MGG, ×1200)

**Fig. 3.** Magnetic resonance image of the upper abdomen showing liver metastasis from the follicular carcinoma

**Fig. 4.** Magnetic resonance image of the lower abdomen showing a metastatic lesion in the left inguinal fossa (arrow)