Case Reports

Follicular Thyroid Cancer Presenting Initially with Soft Tissue Metastasis

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Abbreviations: FTC, follicular thyroid cancer; TG, thyroglobulin; CT, computerized tomography; RI, radioactive iodine

INTRODUCTION

Follicular thyroid cancer (FTC) is the second most common cancer of the thyroid and distant spread may occur to bone, lung, brain, skin and adrenal glands. The reported incidence of distant metastasis is between 11 and 25%, but the initial presentation with distant metastasis is uncommon. In this paper, we describe a patient with FTC who initially presented with a soft tissue mass on the right scapular region, which later on spread to multiple areas of soft tissues, orbita, lung and bone.

CASE REPORT

An otherwise asymptomatic 58-year-old woman presented with a fixed and hard, 2 x 2 cm mass on her right scapula. An incisional biopsy of the lesion was performed and pathological examination revealed thyroid follicular neoplasm (Fig. 1). The thyroid gland was subsequently re-evaluated after diagnosis of extrathyroidal follicular neoplasm. Ultrasonography of the thyroid gland showed a solitary, hypoechoic, 1.5 x 1.5 cm nodule in the right lobe which was not detected by physical examination. Ultrasonography guided fine-needle aspiration biopsy of the thyroid nodule confirmed follicular neoplasm and the diagnosis of metastatic follicular thyroid cancer was established. The patient refused any type of treatment and left hospital against medical advice. 2.5 years later the patient was admitted to the hospital with giant, sarcoma-like multiple soft tissue masses. On this admission, the serum thyroglobulin level was extremely elevated (3500 ng/ml) and she only accepted to receive chemotherapy. Epirubicin and cyclophosphamide were administered. She received three courses of chemotherapy and is alive with a stable disease after 3 months of follow-up. This case of follicular thyroid cancer is reported because of its uncommon initial presentation with soft tissue metastasis which spread to multiple areas as giant soft tissue masses during follow-up.

Key words: follicular thyroid cancer – initial metastasis – soft tissue
Metastatic follicular thyroid cancer masses were detected in both the left gluteal and right orbital areas. The orbital mass was leading to unilateral exophthalmus (Fig. 2B). The cytological examinations of the extrathyroidal masses were consistent with the diagnosis of metastatic FTC. Ultrasonography of the thyroid gland showed a 5 × 5 cm solitary, hypoechoic nodule with peripheral calcification in the right lobe of the thyroid gland in the previous location. Computerized tomography (CT) of the orbita revealed a solid, lobulated mass of 9 × 7 × 7 cm, eroding the right orbital bone. Thorax CT showed an expanded and eroded left sixth rib at the lower level of carina and pelvic CT showed a 10 × 17 × 12 cm solid mass with a central cystic–necrotic component extending to the left lower quadrant. The serum TG level was found to be extremely high (3500 ng/ml), which clearly indicates that the neoplasm was of thyroidal origin. On this admission, the patient refused therapeutic approaches other than chemotherapy and 50 mg/m² of epirubicin and 750 mg/m² of cyclophosphamide were administered every 3 weeks. She received three courses of chemotherapy and is alive with a stable disease after 3 months of follow-up.

DISCUSSION

FTC is the second most common thyroid malignancy. Early hematogenous spread may occur and the patient may present with distant metastasis to bone, lung, brain, skin and adrenal glands (1,3). Rarely, the presence of distant metastasis may be the only initial manifestation of thyroid cancer without clinically apparent disease in the thyroid region.

Eighty percent of patients with FTC are seen initially with a solitary thyroid nodule (2). The rate of distant metastasis was reported to be 25% in a series of 448 patients with FTC (3). Nevertheless, there are very few reports regarding the initial presentation of patients with distant metastasis leading to diagnosis of FTC. Emerick et al. (2) reported two patients (3.6%) with distant metastasis at presentation. Shaha et al. (4) reported a higher incidence of distant metastases (11%) in a series of 1,038 patients with FTC in which 4% presented initially with distant metastatic disease. The aggressiveness of FTC varies widely and metastatic disease is the primary cause of death (5). The incidence of presentation with distant metastatic disease increases in patients over 45 years of age (4). It is of note that our patient was 58 years of age, supporting that observation. Ruegeler et al. (6) reported that, in 988 patients with differentiated thyroid carcinoma, 85 (9%) had distant metastasis diagnosed either at the time of their initial evaluation or at subsequent follow-up. Although lungs (53%) and bones (20%) were primarily affected by metastasis, the brain, mediastinum, skin, liver and eye were the other involved organ sites. FTC also carries a high mortality rate in patients over the age of 45 years and in those with tumors with the greatest diameter >2.5 cm at the time of diagnosis (7).
In recent years, the therapeutic approaches to patients presenting with distant metastasis are essentially well defined. These include total thyroidectomy if the primary thyroid tumor can easily be resected, followed by radioactive iodine (RI) therapy and suppressive treatment with L-thyroxine (4). In our case, the patient refused any form of definitive therapy such as total thyroidectomy, RI therapy and chemotherapy at her first admission but accepted to receive epirubicin and cyclophosphamide at her second admission 2.5 years later.

Initial presentation of FTC with an isolated soft tissue metastasis prior to diagnosis of the primary tumor and development of giant, sarcoma-like multiple distant masses as in our patient are rare. Metastatic FTC should be kept in mind in differential diagnosis of soft tissue masses.

References