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Establishing the First Diagnosis of Follicular Thyroid Carcinoma From the Femoral Metastatic Site in an 84-Year-Old Woman
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Follicular thyroid carcinoma (FTC) is the second most common cancer of the thyroid after papillary thyroid carcinoma (PTC). However, FTC is considered more aggressive than PTC because of a greater tendency to invade blood vessels and spread to distant organs, such as lung and bone. FTC commonly presents as a solitary thyroid nodule, which is diagnosed by thorough examination of thyroidectomy/lobectomy specimens for capsular and vascular invasions. First diagnosis of FTC from femoral metastasis is very rare. Herein we report such a case in an 84-year-old woman who presented with increasing pain in her left thigh. A bone scan revealed multiple lesions in the femur. Biopsy showed solid nests of cells with round to oval nuclei and abundant eosionophilic/granular cytoplasm. On high power, the nuclei contained 1 or more small nucleoli and granular chromatin. Only rare nuclear grooves are found. Four years ago, the patient had a right humeral pathologic fracture. The biopsy was positive for TTF-1 and was interpreted as “metastatic non–small cell carcinoma consistent with lung primary.” However, subsequent bronchial washing and lung biopsy were negative for malignancy. Immunostains for thyroglobulin, TTF-1, HBME-1, CK19, CD56, and CK7 were performed. Detailed medical history was investigated. Tumor cells from femur are positive for thyroglobulin and TTF-1, consistent with metastatic tumor from thyroid primary. HBME-1 and CK19 immunostains only mark scattered cells, not supporting differential diagnosis of metastatic PTC. CD56 and CK7 stains are both positive. On further communication, patient's remote history of thyroid nodule status post right lobectomy was obtained. Based on the overall morphologic and immunohistochemical features and the history, the final diagnosis of metastatic FTC was made. We would like to raise the awareness that metastatic FTC should be included in the differential diagnoses for tumors metastasized to bone to avoid misdiagnosis.

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