INTRODUCTION

Multiple types of thyroid carcinoma exist which include papillary (including follicular variant), follicular, medullary, Hürthle, anaplastic, and primary thyroid lymphoma (rare). Papillary thyroid carcinoma is the most common (88%) followed by follicular (9%) with lymphatic and hematogenous spread respectively and 10 year overall survival rates of 93% and 85% respectively.

Skin metastases from thyroid carcinoma are rare and likely indicate widely spread disease. More common locations include lymph nodes, lung, and bone. A retrospective review of patients with thyroid cancer found that the initial site of metastases were lung only (45%), bone only (39%), other single site (4%), and multiple sites (12%). In general, papillary cancer grows slowly and distant metastases may be found in only 10% of patients.

Dahl, et al presented a review of the literature from 1964-1997 and found 37 cases of thyroid carcinoma metastatic to the skin (43 including his patients), the follicular variant of papillary carcinoma being the most common type, whereas Koller et al reported from his findings that follicular carcinoma of the thyroid was the most common thyroid carcinoma to metastasize to the skin.

We report a case of papillary carcinoma of the thyroid with cutaneous metastases.

CASE REPORT

A 63 year-old non-smoking female with a past medical history significant for a thyroid surgery in 1982 presented for a reportedly benign thyroid mass with preexisting left vocal cord immobility. The patient denied any history of radiation to the head and neck.

In August 2006 the patient had an I-123 scan which was consistent with a toxic multi-nodular goiter with two cold areas on the right and one on the left. The left area corresponded with a primarily cystic 1.9 cm nodule on ultrasound, while a 2.8 cm solid nodule in the right was determined to be a benign colloid nodule on fine needle aspiration. The patient began therapy with Methimazole 20 mg daily for hyperthyroidism.

In 2007, CT of the head, neck, and thorax were obtained which showed extension of the goiter into the mediastinum, multiple calvarial lesions with dural extension, a T1 thoracic vertebrae mass, multiple pulmonary nodules, and increased fibroglandular tissue in the right breast (with subsequent negative mammogram) (see figure 1).

Repeat FNA of the right-sided nodule was consistent with a benign colloid nodule. Physical exam was notable for a symmetric, non ulcerative, non tender, pruritic right parietal mass measuring 4 x 3 cm.

In January 2008, the patient underwent a total thyroidectomy with excision of a thyroglossal duct cyst and resection of the right parietal scalp mass without resection of dura for diagnosis. Significant pathologic findings included follicular variant of papillary thyroid carcinoma in the right thyroid without trans-capsular or vascular space invasion in the histological sections examined, metastatic thyroid carcinoma in right parietal mass and a foreign body giant cell reaction in the reticular dermis of the right scalp skin (see figure 2 and 3).

A Head and Neck Tumor Board at Boston University Medical Center recommended radioactive iodine and possibly external beam radiation with sorafenib (a protein kinase inhibitor). The patient would not benefit from surgical resection of the cranial and dural tumor given the multifocal disease involving the scalp, widely metastatic disease in the lungs and thoracic vertebrae (T1).

CONCLUSION

Our patient presents with an atypical manifestation of papillary carcinoma of the thyroid. Her past medical history of a thyroid surgery with ensuing hyperthyroidism and development of a parietal scalp mass consistent with thyroid tissue approximately 15 years later, in addition to multiple CT scan findings of pulmonary nodules, T1 vertebral mass, calvarial and dural lesions, indicates widely disseminated disease.

This case brings to our attention the distant metastatic potential of papillary carcinoma of the thyroid many years after initial diagnosis. Initially, one would rationally assume distant skin metastases to be related solely to follicular carcinoma of the thyroid due to its hematogenous spread; however, this case as well as the others that have been reported in the literature, demonstrate the possibility of lymphatically spreading neoplasms to manifest in unusual locations in the body.

REFERENCES