Unusual Presentation of Primary Hyperparathyroidism with Coexisted Thyroid Carcinoma

Yalcin Basaran¹, Semra Ince², Engin Alagoz², Coskun Meric³, Abdullah Taslipinar¹

¹Department of Endocrinology and Metabolism, Gulhane School of Medicine, Ankara, Turkey
²Department of Nuclear Medicine, Gulhane School of Medicine, Ankara, Turkey

Introduction

Brown tumor is a rare benign bone lesion with incidence ranging from 1.5% in primary hyperparathyroidism to 13% in secondary hyperparathyroidism. Common sites of involvement are pelvis, femur and ribs, but may appear in any bone. Since the incidence of thyroid disease is higher among patients with hyperparathyroidism than the general population, these lesions must be distinguished from metastases from thyroid carcinoma. We present a patient with a complex clinical picture of primary hyperparathyroidism with multiple destructive skeletal lesions suspicious of bone metastases and concomitant multifocal papillary thyroid carcinoma with a metastatic central lymph node.

Case report

A 38-year old male presented with progressively worsening right hip pain and restricted motion. MRI revealed multiple lytic bone lesions suggestive of brown tumors, but also suspicious for metastases (Fig 1). Biochemical tests were consistent with primary hyperparathyroidism. Neck ultrasound and parathyroid scintigraphy revealed a single parathyroid adenoma and a thyroid nodule, preoperative cytology of which confirmed papillary thyroid carcinoma, as did the final surgical specimen (Fig 2). Biochemical results, regarding hyperparathyroidism, declined to normal levels and his complaints gradually decreased after surgery. Postoperative whole body bone scintigraphy showed increased tracer uptakes at multiple sites (Fig 3). However, post-RAI whole body scan and FDG PET/CT did not exhibit an abnormal uptake throughout the skeletal system, which proved these osteolytic lesions to be metabolically inactive (Fig 4).

Conclusion

Although the guidelines do not consider primary hyperthyroidism a risk factor for thyroid carcinoma, several data suggest that this risk may be increased when compared to the general population. As the concomitant thyroid carcinoma is not uncommon among primary hyperparathyroidism patients, all patients who present with a thyroid nodule should undergo FNAB, even if sonographic features are not suspicious for malignancy.

References