

Follicular Thyroid Carcinoma with Unusual Mandible Metastasis

Abstract

Follicular thyroid cancer is the second-most common type of thyroid cancer after papillary thyroid cancer. Metastases to the mandible and maxillofacial region are rare. Our study presents a 55-year-old patient who underwent total thyroidectomy for follicular thyroid cancer and subsequent radioactive iodine therapy. Sixteen years after diagnosis, elevated thyroglobulin levels suggested disease recurrence. Using advanced imaging techniques – Fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography scan, bone scintigraphy, and posttreatment I-131 scan—an unexpected metastatic site was identified: the left mandibular condyle. A biopsy confirmed the presence of metastatic follicular thyroid cancer.

Keywords: Fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography, mandible metastasis, thyroid cancer

Metastases to the oral and maxillofacial region are rare, accounting for 1%–2% of all oral and maxillofacial malignancies.^[1-3] Thyroid malignancies account for 2% of facial skeletal metastases.^[4] Follicular thyroid carcinoma (FTC) metastasizing to the mandible has been reported in 40 cases, with most cases presenting with clinical complaints and other bone metastases.^[5,6] This case is the 41st documented case in the literature [Figure 1]. While in most cases in the literature, the first finding was the detection of mandibular metastases in the patient, metastases were only observed in eight cases during the follow-up of FTC. Clinical findings such as pain, facial asymmetry, and swelling were seen in all but four patients, while this case was seen 16 years after the diagnosis of FTC and without clinical complaints.^[6] False negatives may be seen in diagnostic iodine scans, one of the reasons for this is the partial volume effect as seen in our case.^[7] Metastatic lesions may mimic odontogenic infections or other conditions in the oral region, leading to delayed diagnosis.^[8,9] Nuclear medicine imaging modalities play a critical role in

the diagnosis of suspected metastases and have proven particularly useful in cases with elevated thyroglobulin levels.^[7,10] This case emphasizes the need for ongoing surveillance and highlights the potential for unpredictable metastatic patterns in follicular thyroid cancers.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initial will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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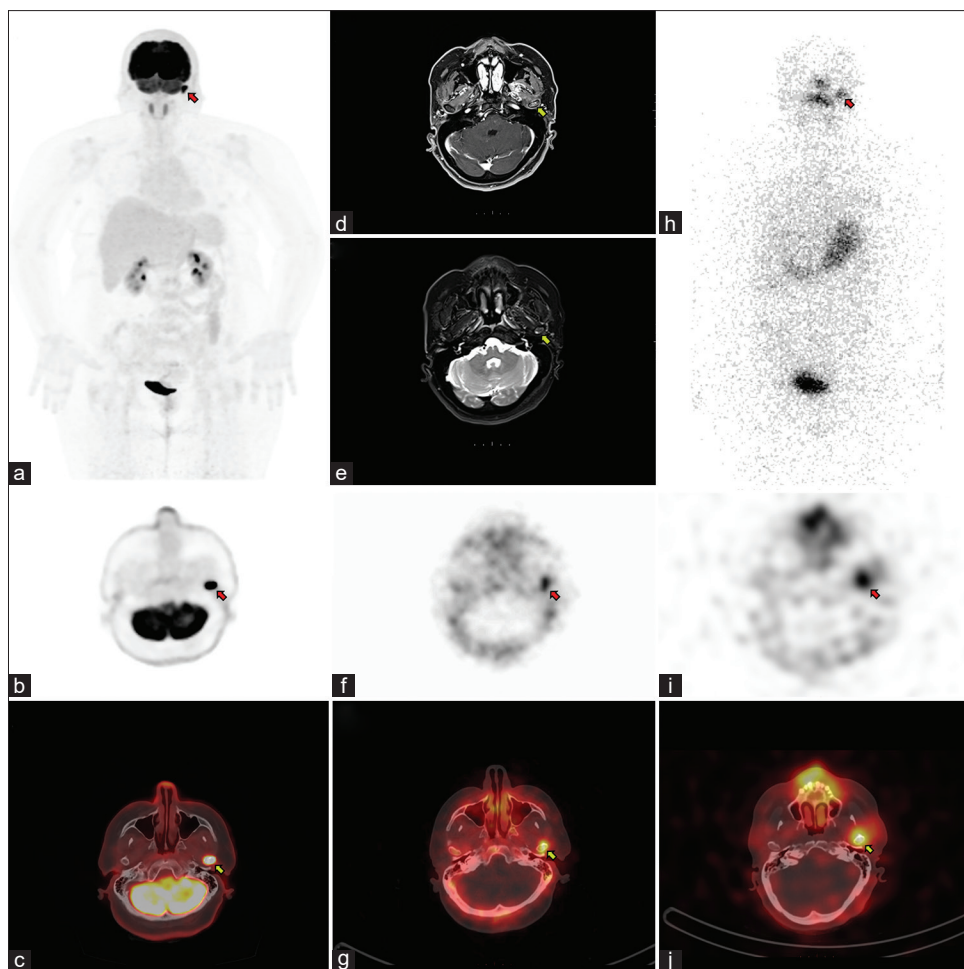


Figure 1: A 55-year-old woman with follicular thyroid carcinoma (FTC) underwent total thyroidectomy followed by 150 mCi radioactive iodine treatment. Diagnosed 16 years ago and absent for regular follow-ups, the patient had no clinical complaints at the last visit, but laboratory parameters showed thyroid-stimulating hormone: 0.23 mU/L and suppressed TG: 106 ng/ml. Recurrent disease was suspected and a 5 mCi I-131 scan and fluorine-18 fluorodeoxyglucose positron emission tomography/computed tomography (F-18 FDG PET/CT) imaging were performed. I-131 scans showed no suspicious uptake, while F-18 FDG PET/CT imaging showed focal FDG uptake in the left mandibular condyle (SUV_{max} : 21.4; a-c, arrows). Magnetic resonance imaging demonstrated a 22 mm × 10 mm lesion with peripheral contrast enhancement in contrast-induced T1 series (d), arrows and signal hyperintensities in the T2-weighted sequences (e, arrows). Planar bone scintigraphy and single-photon emission computed tomography/CT (SPECT/CT; f and g, arrows) showed Tc-99 m hydroxymethylene diphosphonate uptake in the same region. Ultrasound-guided fine-needle aspiration biopsy confirmed the malignancy and the patient was diagnosed with a solitary mandibular metastasis of FTC. The patient was again treated with 150 mCi I-131-I (stimulated TG value: 240 ng/ml). Posttreatment I-131 planar and SPECT/CT images (h-j, arrows) showed intense iodine uptake, confirming the other images. TG: Thyroglobulin

Conflicts of interest

There are no conflicts of interest.

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