

Mandibular metastasis from follicular variant of papillary carcinoma of thyroid: Report of an uncommon initial presentation

Subrata Pal, Sanjay Sengupta, Kingshuk Bose, Biplab Kr. Biswas

Department of Pathology, Bankura Sammilani Medical College, Bankura, West Bengal, India

ABSTRACT

Follicular carcinomas of thyroid have more prone to metastasize through hematogenous route and commonly involve bone, whereas papillary carcinomas spread through lymphatics. However, mandibular metastasis from thyroid malignancy is rare. Few cases have been reported until now. We are presenting a case of metastatic carcinoma of mandible and gingiva from follicular variant of papillary carcinoma of thyroid and interestingly secondary malignancy identified before the diagnosis of primary tumor.

Key words: Initial presentation, mandibular metastasis, papillary carcinoma, thyroid

INTRODUCTION

Metastatic tumors of oral cavity are very rare accounting for 1% of neoplasms of this region and jaw bones involvement are quite infrequent (0.1% of all malignancies).^[1-3] However, mandible is the most common site for metastatic tumor among the ganthic bones accounting 80-90% of the cases.^[4,5] Common primary sites are breast, lung, adrenal, kidney, gastrointestinal tract, and prostate.^[1] Most common primary malignancies metastasizing to mandible are lung in male and breast in female.^[6] Most of the metastatic tumors present with pain, swelling and paresthesia and mimic all other primary benign and malignant jaw lesions causing difficulty in clinical diagnosis.^[7] Mandibular metastasis from thyroid carcinoma is uncommon accounting 3.8% of all jaw metastases.^[8]

CASE REPORT

A 45-year-old female patient with the complaints of pain

and swelling of the right lower jaw for a month came to the Department of Odontology, of our institute for treatment.

On clinical examination, the swelling was firm and tender measuring 5 cm × 4 cm at the ramus of the mandible on the right side, also involving buccal sulcus, socket of right lower canine, and 1st molar tooth. Patient had an average built and did not have any history of tobacco use, diabetes mellitus, and tuberculosis. Radiological examination (X-ray) showed a lytic lesion involving ramus of mandible with pathological fracture of the lower rim.

Biopsy from the buccal sulcus was sent to Pathology Department for histopathological examination. Sections from the small biopsy sample revealed tightly packed small to medium size follicles with little intervening stroma confirming thyroid origin of the growth [Figure 1, 2]. Individual tumor cells showed typical features of papillary carcinoma. Considering clinical presentation a histopathological diagnosis of metastatic deposit from a papillary carcinoma of thyroid was made [Figure 1]. Further radiological investigation (ultrasonography) proved presence of a small nodular lesion 1 cm × 0.8 cm at right lobe of thyroid. Fine-needle aspiration of thyroid swelling under ultrasound guidance was done, and microscopic examination of aspirates confirmed the lesion as follicular variant papillary carcinoma. Final confirmation was achieved by histopathological examination of thyroid swelling after near total thyroidectomy.

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Address for correspondence:

Dr. Subrata Pal, Department of Pathology, Bankura Sammilani Medical College, Gobindanagar, Kenduadihi, Bankura, West Bengal, India.
E-mail: subratapal1985@gmail.com

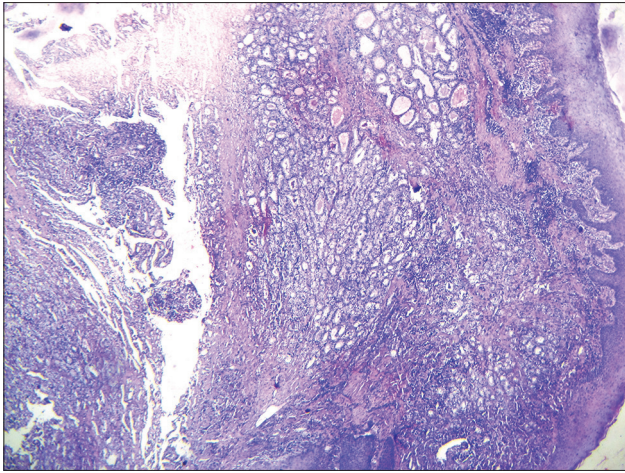


Figure 1: Photomicrograph showing metastatic deposit of follicular variant of papillary carcinoma of thyroid in sub-epithelial tissue of gingiva (H and E stain, scanner view)

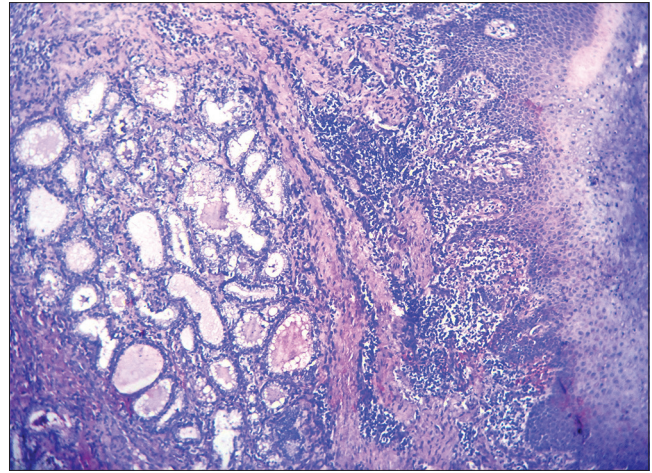


Figure 2: Photomicrograph showing metastatic follicular architecture in follicular variant of papillary carcinoma thyroid (H and E stain, ×10 view)

DISCUSSION

Metastatic oral lesions are not uncommon among elderly population (40–70 years).^[1,6] However, jaw bone metastasis is so rare that most of the skeletal survey in search of possible secondaries exclude these bones.^[3] As a result exact incidence of metastatic jaw tumor is debated.^[8] Possible explanation for this reduced rate of involvement can be progressive reduction of vascularity and amount of red bone marrow in these bones with increasing age.^[2] Secondary tumors can reach jaw bones by blood borne or lymphatic route or rarely by iatrogenic mechanisms. Hematogenous spread is the most common mode of involvement.^[3] Mandible, as previously mentioned, is the most common jaw bone for metastasis accounting 80% of all jaw metastases. Molar and premolar regions (38–55%) are more commonly involved due to anatomical position, presence of hematopoietic marrow and less protective regulation that favors the metastatic tumor cell entrapment.^[8] Common primary sites are breast (21.8%), lung (12.6%), adrenal (8.7%), kidney (7.9%), bone (7.4%), colorectal tissue (6.6%), and prostate (5.6%).^[8]

Though papillary carcinomas of thyroid are more common than follicular carcinomas but latter tumors are more prone to spread hematogenously, especially to lung and bone.^[9] Papillary carcinomas spread commonly through lymphatics and bone metastasis from papillary carcinoma is extremely uncommon.^[10] Papillary thyroid carcinomas have less severe clinical course and isolated regional lymph node metastasis does not significantly alter prognosis.^[11] However, distant metastasis is associated with poorer outcome.^[12]

Clinically, metastatic jaw lesions present with pain, swelling, paresthesia, loosening of teeth, pathological

fracture, and rarely osteomyelitis or trigeminal neuralgia. Radiographic pictures of metastatic jaw tumors can be variable, but commonly lytic or opaque lesions with ill-defined margins.^[3,8] It should be remembered that in 29–33% of the cases metastatic lesions might be the first indication of undiscovered malignancy at distant site, similar to our experience.^[2,8]

In this study, we are presenting rare metastatic pattern of a common thyroid malignancy with special histological variant. We want to emphasize that metastasis should always be considered as a possible differential diagnosis during the evaluation of any jaw swelling, particularly among aged patient. Another important point is that rare metastatic involvement of a bone (mandible) can be the initial presentation of a papillary carcinoma of thyroid (follicular variant).

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