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A rare case of gingival metastases from papillary thyroid carcinoma

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ABSTRACT

Metastatic oral malignancy accounts for 1% of all oral cancers. Oral soft tissue involvement is rare and accounts for less than 0.1% of all oral tumours with the attached gingiva being the commonest site affected. We present the first reported case of a papillary thyroid carcinoma (PTC) with sarcomatoid transformation giving rise to gingival metastasis.

A 71 year old man with a history of PTC presented with an asymptomatic gingival swelling adjacent to his lower right lateral incisor. Subsequent biopsy of the lesion confirmed PTC metastasis with aggressive sarcomatoid features. We present a clinical photograph of the gingival swelling and the pathology images demonstrating both the papillary and sarcomatoid features of the gingival biopsy.

The prognosis of PTC is usually excellent but some histological variants of PTC behave more aggressively. The histology in our case demonstrated solid areas and sarcomatoid transformation and behaved far more aggressively than typical PTC. Sarcomatoid transformation in PTC has not been previously described and indicates a poor prognosis and the need for planning urgent palliation. These lesions can present a diagnostic challenge to both pathologists and clinicians in identifying the lesion as metastatic and locating the primary cancer.

This case demonstrates the need for vigilance amongst health professionals when presented with an oral soft tissue mass in patients with a known primary malignancy. This may be the first evidence of disseminated disease and emphasises a low threshold to biopsy oral soft tissue lesions in patients with a history of malignant disease.

1. Introduction

Metastatic oral malignancy accounts for 1% of all oral cancers [1]. Soft tissue involvement is rare and accounts for <0.1% of all oral tumours [2,3] with the attached gingiva the most common site involved [4]. Some tumours have a recognised pattern of spread to the mouth, however thyroid carcinoma metastasis to this area is rare [5]. We present the first reported case of a papillary thyroid carcinoma (PTC) with sarcomatoid transformation giving rise to gingival metastasis and indicating widely disseminated disease.

2. Case description

A 71 year old man presented to his general medical practitioner (GMP) with a ten week history of a painful neck lump and hoarse voice. He was referred on a cancer pathway (Two Week Wait) to the Ear Nose and Throat Department. On initial assessment, a 2 cm firm mass in the left supraclavicular fossa along with a left vocal cord palsy on flexible nasoendoscopy was detected. A fine needle aspiration of the supraclavicular mass was undertaken for cytological investigation and a computed tomography (CT) scan of the neck and thorax was requested. The subsequent cytology results showed metastatic PTC and the CT confirmed a thyroid malignancy with associated lymphadenopathy. The multi-disciplinary team (MDT) outcome advocated a total thyroidectomy and left selective neck dissection which was carried out two weeks later. Intraoperative findings demonstrated the tumour invading the left cricopharyngeal joint and left recurrent laryngeal nerve explaining the vocal cord palsy. The thyroid histolopathology confirmed a papillary carcinoma with solid areas and sarcomatoid transformation (Fig. 1).

The tumour was 55 mm in maximum diameter involving the left thyroid lobe and isthmus. The right lobe was clear. Further tracheal shavings also confirmed papillary carcinoma. In total 53 nodes were removed and 12 of these were involved with tumour. There was also a soft tissue deposit at level III. The original presenting left supraclavicular node was 35 mm in diameter. The staging was pT4a pN1b. The patient underwent adjuvant radioactive iodine

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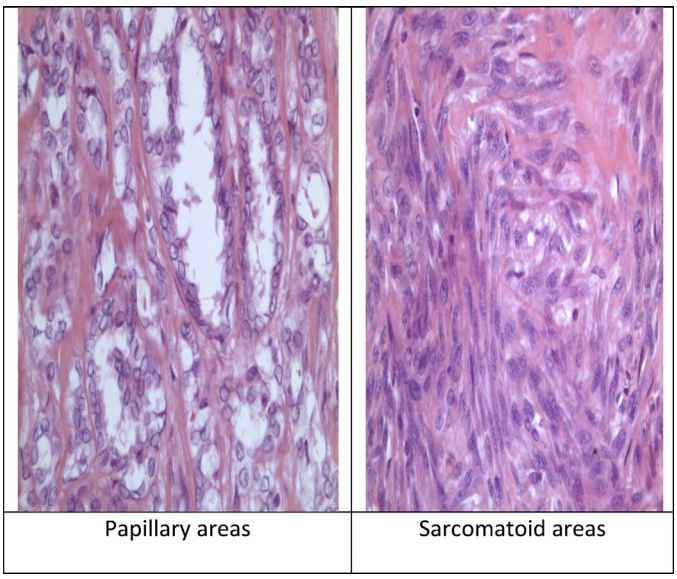

Fig. 1. Histology from thyroid biopsy–H and E stain.

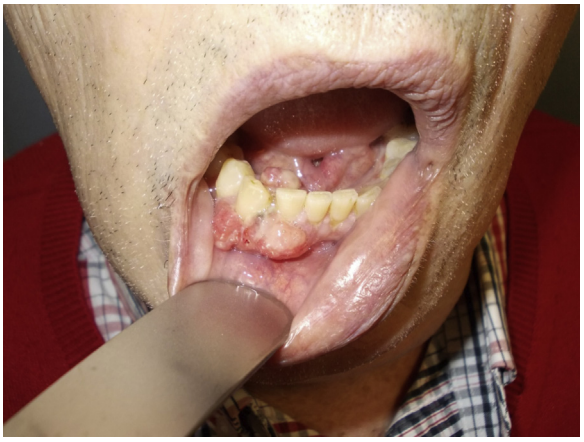

Fig. 2. Gingival Metastasis.

treatment with curative intent and initially made an uncomplicated recovery. Eight weeks after completion of treatment he attended his GMP to draw attention to a rapidly growing asymptomatic labial gingival swelling adjacent to his lower right lateral incisor (Fig. 2).

Intraoral examination revealed a 1.5 cm diameter firm, irregular and well defined pale pink gingival swelling extending interdentally and displacing the lower right lateral incisor and canine. An incisional biopsy demonstrated PTC with sarcomatoid transformation which was identical to his primary thyroid lesion (Fig. 3)

Further MDT discussion suggested palliative chemotherapy given the sarcomatoid transformation of the primary tumour and disseminated nature of the disease.

3. Discussion

PTC is the commonest thyroid malignancy. Metastases are usually to ipsilateral regional lymph nodes with distant metastases being rare and occurring in the lung followed by bone and other soft tissues. The prognosis is usually excellent with the carcinoma usually remaining confined to the thyroid [6,7]. Latest World Health Organisation International classification defines PTC by its 'follicular cell differentiation and characteristic nuclear changes'. Some histological variants of PTC behave more aggressively than PTC with typical histology [8–11]. The histology in our case demonstrated

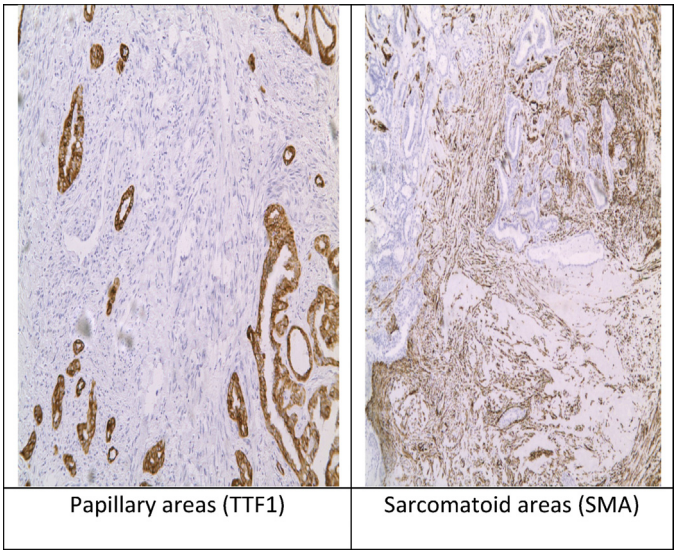

Fig. 3. Histology from gingival biopsy–TTF1 and SMA stains.

solid areas and sarcomatoid transformation and behaved far more aggressively than typical PTC. Sarcomatoid transformation in PTC has not been previously described and indicates a poor prognosis and the need for planning urgent palliation.

The oral cavity is a rare site for metastatic disease and indicates disseminated disease. The jaw bones, particularly the premolar region of the mandible is the commonest site of metastatic deposits [2,5] with soft tissue deposits accounting for just 0.1% of all oral malignancies [2,3]. If soft tissue metastases occur they affect the attached gingiva in 54% of cases [4]. The usual primary sites for gingival metastases include the lung, liver, kidney and prostate for males and breast, female genital organs, kidneys and colorectum for females. The gingival metastatic deposits usually appear as hyperplastic lesions such as a pyogenic granuloma [4]. Although there have been reported cases of malignant thyroid metastases to the bony oral cavity [12,13] there is only one reported case of a thyroid (medullary) metastasis to the gingiva [1]. Gingival metastases from PTC has not previously been reported.

4. Conclusion

This case demonstrates the need for vigilance amongst health professionals when presented with an oral soft tissue mass in patients with a known primary malignancy. This may be the first evidence of disseminated disease [2] and is likely to indicate poor prognosis. Such a presentation can pose a diagnostic challenge to both clinicians and pathologists in identifying the lesion as metastatic and locating the primary cancer [14], and emphasises the need for a low threshold to biopsy oral soft tissue lesions in patients with a history of malignant disease. In this case, identifying distant metastases early was important as it provided an opportunity to plan appropriate palliative management.

Conflict of interest

We declare no conflicts of interest.

Funding

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Ethical approval

Not applicable.

Author contribution

Mr John Frewer – Study concept, design and final review.Mr Ibraz Siddique – Literature search, drafting the articles and revision. Mr David Walker – Critical revision of drafts.Dr Preetha Chengot – Aquisition of illustarations and final review.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Guarantor

Mr Ibraz Siddique.

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