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CLINICAL RECORD

Eyelid-parotid metastasis: do we screen for coexisting masses? A case series

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Abstract

Objective: To report three cases illustrating that it is not unusual for a primary eyelid tumour to metastasise to the parotid gland and vice versa.

Case reports: Two patients with malignant parotid tumours underwent radical parotidectomy and presented subsequently with eyelid lesions. Biopsy showed that both eyelid lesions were histologically similar to the primary parotid tumour. A third patient was noted to have ipsilateral upper eyelid and parotid gland tumours. Histology and immunocytochemistry were used to differentiate the primary tumour and the metastasis.

Conclusion: These cases illustrate that tumours involving eyelids and parotid glands can present simultaneously or sequentially, and either of these structures could be the focus of primary or metastatic tumour. The important message for oculoplastic and parotid surgeons is to routinely assess both the periocular and parotid area when patients present with a mass in either structure.

Key words: Parotid Neoplasms; Eyelids; Tumors; Metastasis; Histopathology; Immunocytochemistry

Introduction

The parotid gland is a metastatic basin for cutaneous malignancies involving the skin of the head and neck, which drain via lymphatic vessels; however, the overall incidence of parotid tumours is low.[1] On the contrary, primary eyelid carcinomas are common, but metastasis to eyelids constitutes less than 1 per cent of all cases of malignant eyelid lesions.[2] We present three cases which illustrate that it is not unusual for a primary eyelid tumour to metastasise to the parotid gland and occasionally vice versa.

Case reports

Case one

A 51-year-old man with left parotid gland squamous cell carcinoma (SCC) underwent total parotidectomy, facial nerve sacrifice, radical neck dissection and reconstruction with an anterolateral thigh flap. Perineural spread was confirmed on histology and treated with radiotherapy. He underwent lower lid paralytic ectropion and upper lid entropion correction to manage facial nerve palsy sequelae.

After two years, he presented with a left upper eyelid lesion and lacrimal gland enlargement (Figure 1). Biopsy confirmed a poorly differentiated SCC positive for p63. Histology was similar to that of the parotid lesion indicating a likely metastatic SCC, for which he underwent an orbital exenteration.

Case two

A 71-year-old woman with known breast cancer presented with a mass involving the ipsilateral left upper eyelid (Figure 2). On initial examination, she was also noted to have a parotid swelling on the same side.

Punch biopsy of the eyelid revealed poorly differentiated basaloid type SCC, positive for p63 and epithelial membrane antigen. Core biopsy of the breast lump revealed invasive ductal carcinoma negative for p63. The different immune profiles of the tumours suggested that the eyelid tumour was a likely primary carcinoma rather than metastasis.

Histology and immunocytochemistry of the parotid gland lesion revealed poorly differentiated SCC, strongly positive for p63 and epithelial membrane antigen, and focally positive for Ber-EP4 and cytokeratin 7. These findings were suggestive of metastasis from the eyelid lesion (Figure 2). The lesion was excised and the defect reconstructed.

The parotid mass was treated with left parotidectomy and block dissection. The breast carcinoma was kept under observation because of its indolent nature.

Case three

A 43-year-old man presented with a left-sided parotid tumour. Fine needle aspiration cytology confirmed poorly differentiated carcinoma. He underwent radical left parotidectomy, followed by chemotherapy and radiotherapy. Immunocytochemistry revealed that the parotid tumour was positive for adipophilin antibody, indicating a sebaceous phenotype.

Three months later, the patient presented with a localised lump in the left lower eyelid. Diagnostic biopsy and adipophilin antibody staining revealed a sebaceous gland carcinoma, with histology similar to the parotid gland tumour (Figure 3). The eyelid tumour was excised and the defect reconstructed.

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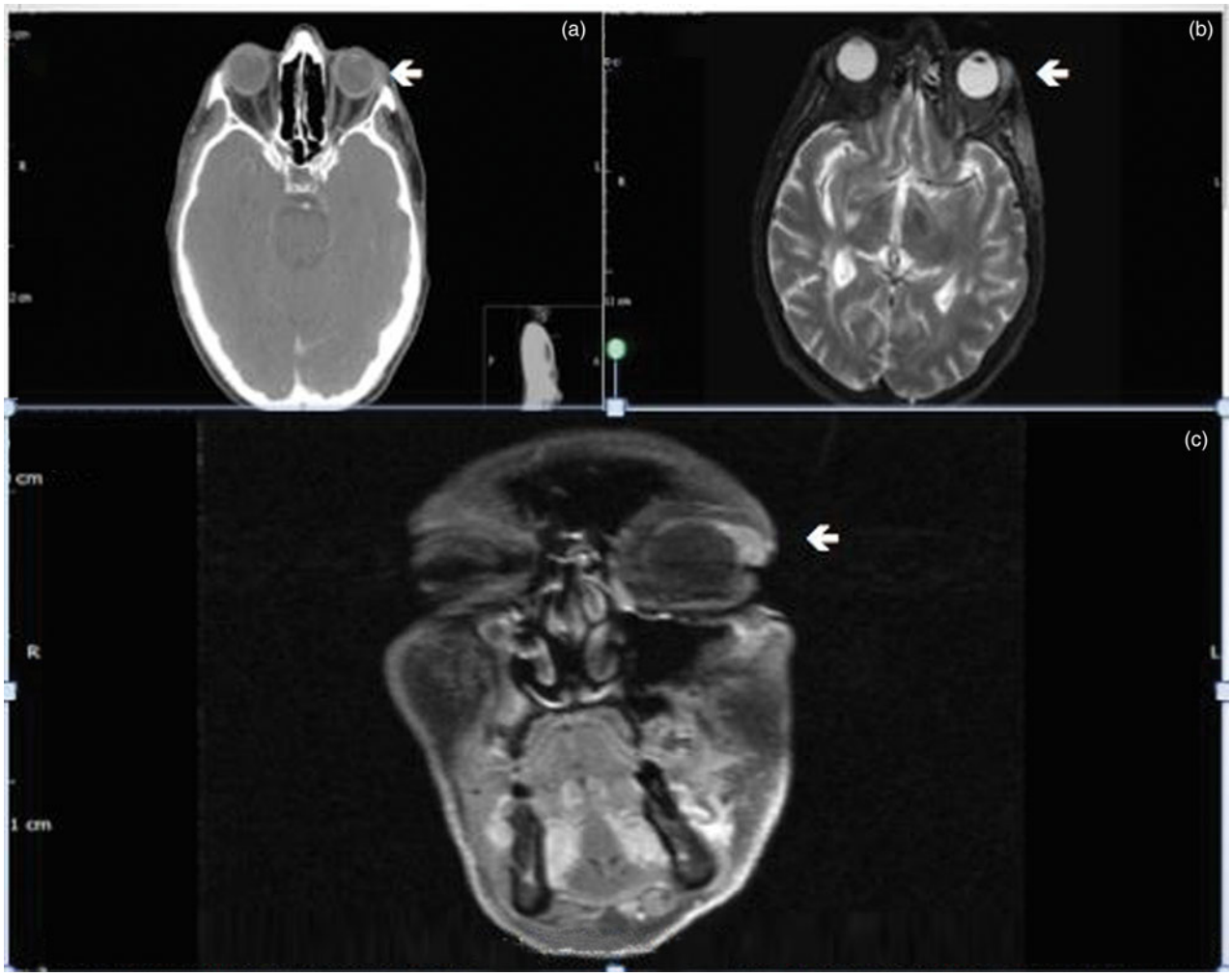


FIG. 1

(a) Axial computed tomography scan with contrast, (b) axial, T2-weighted magnetic resonance imaging (MRI) scan and (c) axial, T1-weighted MRI scan, showing left lacrimal gland enlargement (arrows) in case one. R = right; L = left



FIG. 2

Poorly differentiated basaloid type squamous cell carcinoma of the upper eyelid, in case two.

Discussion

Parotid cancers are mainly of two types, primary parotid gland tumours and metastatic cancers, often from cutaneous malignancies.[1] The reported incidence of primary SCC of the salivary gland is only 0.3–1.5 per cent.[3] More commonly, SCC metastasises to the intraparotid and periparotid lymph nodes from cutaneous malignancies. Reported incidences of regional lymph node metastasis associated with periocular SCC have been as high as 24 per cent.[4] The parotid and pre-auricular nodes were most commonly involved, followed by submandibular, submental and cervical nodes.[4]

Potential lymph node and parotid involvement are recognised features of periocular tumours with metastatic potential. However, often while assessing parotid masses, the eyelids are overlooked for possible masses. The same holds true for eyelid masses – local lymph nodes are assessed, but parotid glands are not routinely assessed unless there is a high index of suspicion.

The most common primary tumour for eyelid metastasis is breast carcinoma (40 per cent), followed by skin melanoma (33 per cent), gastric carcinoma (13 per cent), uveal melanoma (7 per cent) and lung carcinoma (7 per cent).[2] Though one of our patients presented with breast, eyelid and parotid masses, immunocytochemistry suggested that the parotid

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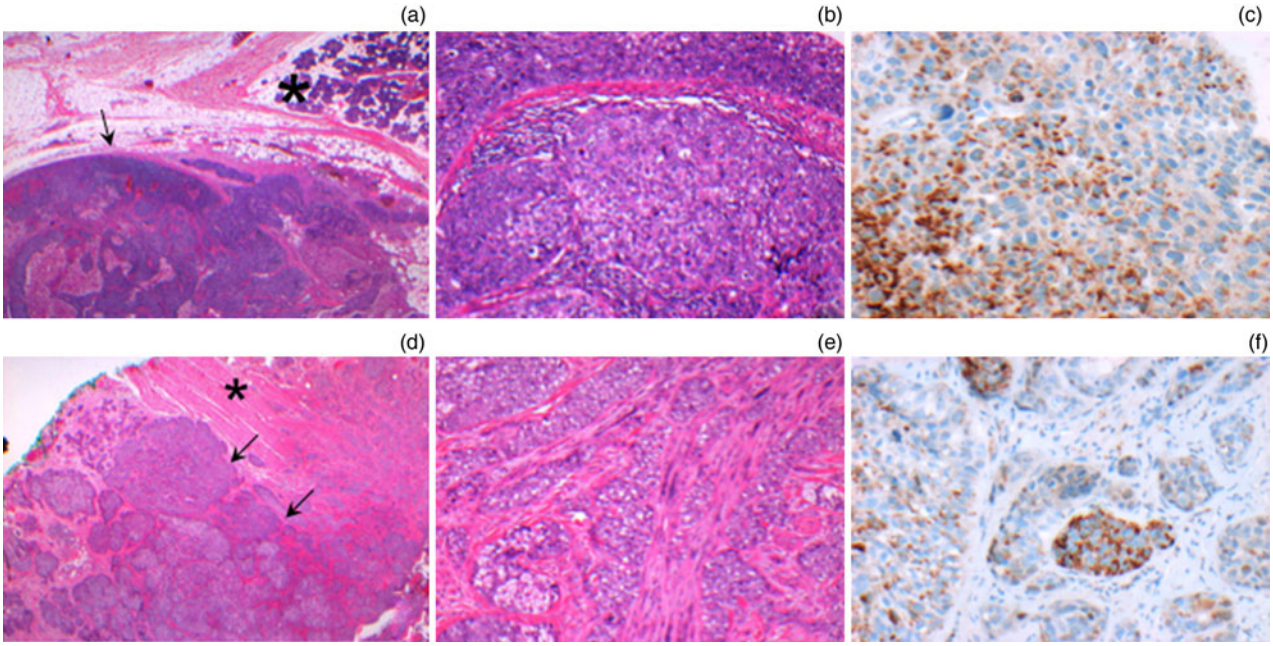


FIG. 3

Case three histology slides of: (a) parotid (H&E; ×1.25) (arrow indicates the tumour; asterisk indicates parotid acinar tissue), (b) parotid tumour showing basaloid and vacuolated tumour cells (H&E; ×10), (c) parotid tumour (adipophilin antibody; ×20), (d) eyelid (H&E; ×1.25) (arrows indicate the tumour; asterisk indicates orbicularis muscle), (e) eyelid showing basaloid and vacuolated tumour cells (H&E; ×10) and (f) eyelid (adipophilin antibody; ×20).

tumour was a likely metastasis from the eyelid tumour, and the breast tumour had a different immunoprofile.

Our third case was a sebaceous carcinoma. Eyelid sebaceous carcinoma is not uncommon, and as the eyelid lesion involved the lateral aspect of the left lower lid, it is plausible that an occult lower lid sebaceous carcinoma metastasised to the parotid via lymphatic drainage, and the metastasis was the presenting feature.

Benign and malignant sebaceous salivary gland tumours are rare, and constitute less than 0.2 per cent of salivary gland tumours.[5] They are known to be aggressive; however, a range of biological behaviours have been described.

- **Tumours with metastatic potential involving the eyelids and parotid gland can present simultaneously or sequentially**
- **Either of these structures can be the focus of a primary or metastatic tumour**
- **Immunocytochemistry is valuable in establishing a diagnosis**
- **Immunocytochemistry can distinguish the primary tumour site from the metastasis; prognosis is often different in either scenario**
- **Oculoplastic and parotid surgeons should routinely assess the periocular and parotid areas when patients present with a mass in either structure**

These cases illustrate that tumours with metastatic potential involving the eyelids and parotid gland can present simultaneously or sequentially, and either of these structures could be the focus of a primary or metastatic tumour. Immunocytochemistry is valuable in establishing diagnosis and distinguishing the site of the primary tumour from metastasis, as the prognosis is often different in either scenario.

The most important message for oculoplastic and parotid surgeons is to routinely assess both the periocular and parotid area when patients present with a mass in either structure.

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