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### Case Report

# Coughing up – Small cell carcinoma lung with gingival metastasis

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#### KEYWORDS

Small cell lung cancer; Metastasis; Gingiva; Radiation therapy **Abstract** Small cell lung cancer (SCLC) is known for its metastatic potential. The most common sites are liver, adrenal, bone and brain. We report a case of a 37 year old female patient, diagnosed with SCLC, presenting with gingival metastasis, an unusual metastatic site. Radiation therapy to the metastatic lesion to a dose of 20 Gray in 5 fractions over 5 days was delivered which achieved haemostasis and good palliation. However, the patient expired in 2 months owing to systemic metastasis.

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#### Introduction

Small Cell lung cancer (SCLC) is an aggressive subtype of lung cancer known for its metastatic potential [1]. Around 70% of

Abbreviations: SCLC, small cell lung cancer; CECT, contrast enhanced computed tomography; CT, computed tomography; PET CT, positron emission tomography – computed tomography; ECOG PS, Eastern cooperative oncology group performance status; AJCC, American Joint Committee on Cancer; Gy, Gray.

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SCLC presents with extensive disease. With combination chemotherapy, about 20% achieve a complete response with a median survival of 7 months. However, only 2% are alive at 5 years [2]. The most common sites of metastasis of SCLC are liver, adrenals, bone and brain. Metastasis to gingiva and hard palate is rare. Cases of lung cancer metastasizing to these sites have been reported [3–7] and in one case metastasis to gingiva was the presenting feature [8]. Herein, we report a case of extensive stage SCLC treated with chemotherapy and radiation therapy presenting with metastasis to gingiva. This unusual site of metastasis was a cause of bleeding, thus requiring palliation.

#### Case history

A thirty-eight year old housewife presented with dry cough, progressive dyspnoea and chest pain for two months. There was no fever, haemoptysis, weight loss, seizures or any medical

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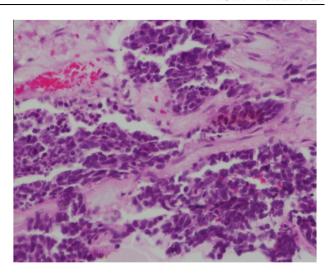
co-morbidity. She did not have any history of smoking or alcohol intake. Her performance status was good and systemic examination did not reveal any abnormalities. Chest X-ray showed a mediastinal mass and contrast enhanced computed tomography (CECT) showed a  $7.1 \times 7.0 \times 4.6$  cm mass in left peri-hilar region with necrosis and calcification encasing the great vessels (Fig. 1). In view of her young age and nonsmoker status, a DOTANOC scan was done suspecting bronchial carcinoid. However no uptake was noted. Biopsy revealed a malignant small round cell tumour with areas of necrosis. Synaptophysin, chromogranin and cytokeratin were positive on immunohistochemistry (Fig. 2) with MIB-1 labelling index greater than 90%. Whole body Positron Emission Tomography (PET) CT revealed an additional asymptomatic brain metastasis. The patient was diagnosed as small cell carcinoma lung and staged as T4N1M1b according to the seventh American Joint Committee on Cancer (AJCC) recommendations [9].

In view of good performance status whole brain irradiation to a dose of 30 Gray (Gy) in 10 fractions over 2 weeks was delivered. Subsequently she received 6 cycles of chemotherapy with cisplatin and etoposide. A response assessment PET CT showed no change in the size of lung mass. However the prenoted brain metastasis was Fluorodeoxyglucose avid. Following this she was treated with radiation therapy (RT) to a dose of 20 Gy in five fractions over five days to the lung mass. After one month of RT she presented to our clinic with a single episode of bleeding (10-15 ml) from oral cavity. Detailed physical and local examination showed two ulcero – proliferative lesions – one  $4 \times 2$  cm in the upper gingiva posterior to the first molar and one  $1 \times 1$  cm lesion in hard palate (Fig. 3).

The blood counts were within normal limits. A course of antibiotics and anti-fungals showed no improvement. CT face and neck showed a mass in the upper gingiva, causing destruction of alveolus and extending to adjacent hard palate and buccal mucosa (Fig. 4). Biopsy revealed it to be a small cell



**Figure 1** Computed tomography image of the lung primary – mass in left upper lobe encasing the arch of aorta.



**Figure 2** Sections from the lung biopsy show a small cell carcinoma composed of hyperchromatic cells with scant cytoplasm arranged in lobules with crushing artefacts (H&E, ×200).



**Figure 3** Ulcero-proliferative lesion is noted in left maxillary gingiva posteriorly, a separate ulcerated lesion is seen in the hard palate.

carcinoma. The immuno-histochemical markers were similar to the one reported from the lung primary thus linking it to be metastatic from the lung (Fig. 5A–E).

The patient received palliative RT, 20 Gy in five fractions over five days to the metastatic site. At one month follow up she had partial regression of the lesion and did not report any further episodes of bleeding from oral cavity.

Unfortunately, she developed jaundice at the next visit and imaging showed multiple liver metastases. She was offered best supportive care as performance status was not suitable for further cancer directed therapy. She expired at home two months post detection of the oral cavity ulcers.

#### Discussion

Though small cell lung cancer is notorious for hematogenous dissemination, oral cavity is a rare site for metastasis. If

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