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Metastasis in tongue from carcinoma of bronchus: a case report

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Abstract

A case of carcinoma of the lung with a metastasis on the tongue is presented. The case is of interest because, although primary carcinomas of the tongue are fairly common accounting for 50 per cent of all oral carcinomas, metastatic tumour represents only one per cent of all malignant tumours of the oral cavity and of these only 0.2 per cent metastasize to the tongue.

Key words: Lung neoplasms; Neoplasm metastasis; Tongue

Case report

A 70-year-old Caucasian female first presented to our hospital, in May 1982, with a history of haemoptysis. She had a history of weight loss and decreased appetite and also a past history of chronic bronchitis. She had been a smoker of 10 cigarettes a day for 50 years but had stopped smoking three years previously.

On examination the only positive finding was a pleural rub. After investigations she was managed as a case of chronic bronchitis, treated with antibiotics, to which she responded well and was discharged.

The patient returned to casualty in March 1989, seven years after her first presentation, with another bout of haemoptysis and a history of weight loss again. On this occasion she was bronchoscoped and was found to have a tumour in the left lower lobe which was partly obstructing the lumen. The tumour was biopsied and bronchial brushings were taken. Both of these showed a squamous cell carcinoma. Based on these findings, and the fact that the patient had a poor pulmonary reserve, surgery was not advisable and she was treated with radiotherapy. She received a total dose 4200 cGY over a period of four weeks.

Two weeks after completion of radiotherapy she returned for a routine follow-up by which time she was complaining of a nodule which had appeared on her tongue. On examination she was found to have a 2 cm diameter 'ulcerative' lesion with rolled-in edges, rather like a nodule with a small central necrotic area, on the right side of her tongue in the posterior third (Figure 1). The tongue was mobile. The rest of her ENT examination was normal: in particular no nodes were palpable in the neck.

The ulcer was biopsied and showed a moderate to poorly differentiated squamous cell carcinoma (Figure 2), whose histopathology was similar to that of the bronchus. She was treated with radiotherapy to the tongue lesion receiving 4800 GY in total. At the end of the course the lesion on the tongue had healed, the tongue remained mobile and there was no evidence of lymphadenopathy.

On subsequent follow-up appointments, at three-monthly intervals, there was no evidence of recurrence. The neck remained node-free but she continued to lose weight steadily. In June 1990, a chest X-ray showed recurrence of her chest lesion and a bone scan confirmed bony metastases to the ribs and vertebrae.

She continued to be seen at regular intervals until she died, in July 1991, of disseminated disease.

Discussion

Primary tumours metastasizing to the tongue are extremely rare. The medical and dental literature contain only occasional case reports.

Oschner and DeBakey (1942) reported an incidence of 1.6 per cent out of 3047 primary lung tumours metastasizing to the tongue (48 cases). However, Zegarelli *et al.* (1973) reported an incidence of 0.2 per cent out of 5933 autopsies (12 cases) performed on patients with malignancies (all organs). They only found two cases of tongue metastasis from 579 autopsies with primary cancer of the lung.

In a review of the world literature from 1945–70, Hatziotis *et al.* (1973), found 48 cases of metastatic tumour of the soft tissue of the oral cavity. The gingiva was the most common site (22 cases), and the tongue the second most common site (12 cases). They found the lung was the most common primary site (14 cases). This is in contrast to both Brabant and Demoulin (1967), and Schuermann *et al.* (1966) who stated that the tongue was the most frequent site for metastatic tumours.

In their reviews Permutter *et al.* (1974) (18 cases), Zegarelli *et al.* (1973) (12 cases), Hatziotis *et al.* (1973) (48 cases) found a total of 69 cases from 1945 (excluding overlapping cases), of soft tissue intra-oral metastasis where the most common site was the gingiva (28 cases) followed by the tongue (24 cases). The average age for occurrence is all three reports was 52.5 years and these were 41 males and 22 females (1.9:1).

According to Zegarelli *et al.* (1973) the possible routes of metastasis to the tongue include: (i) systemic circulation; (ii) venous circulation; (iii) lymphatic circulation. Tumours, primary or secondary, in the lung can gain access to the pulmonary vein, drain to the left side of the heart, and thus into the systemic circulation where metastasis to any organ of the body can result ultimately. It would appear that the most likely route for lingual metastasis is the systemic circulation. However, retrograde dissemination of the tumour to the tongue with involvement of regional nodes is a possibility. Zegarelli *et al.* (1973) also stated, that the base of the tongue was the part of the tongue most frequently involved. They concluded that this could either be due to a richer vascular supply (dorsal lingual arteries) or the relative immobility of this area compared to other areas of the tongue.

In the majority of cases the site of the primary tumour is known and therefore the secondary in the tongue, is easy to diag-

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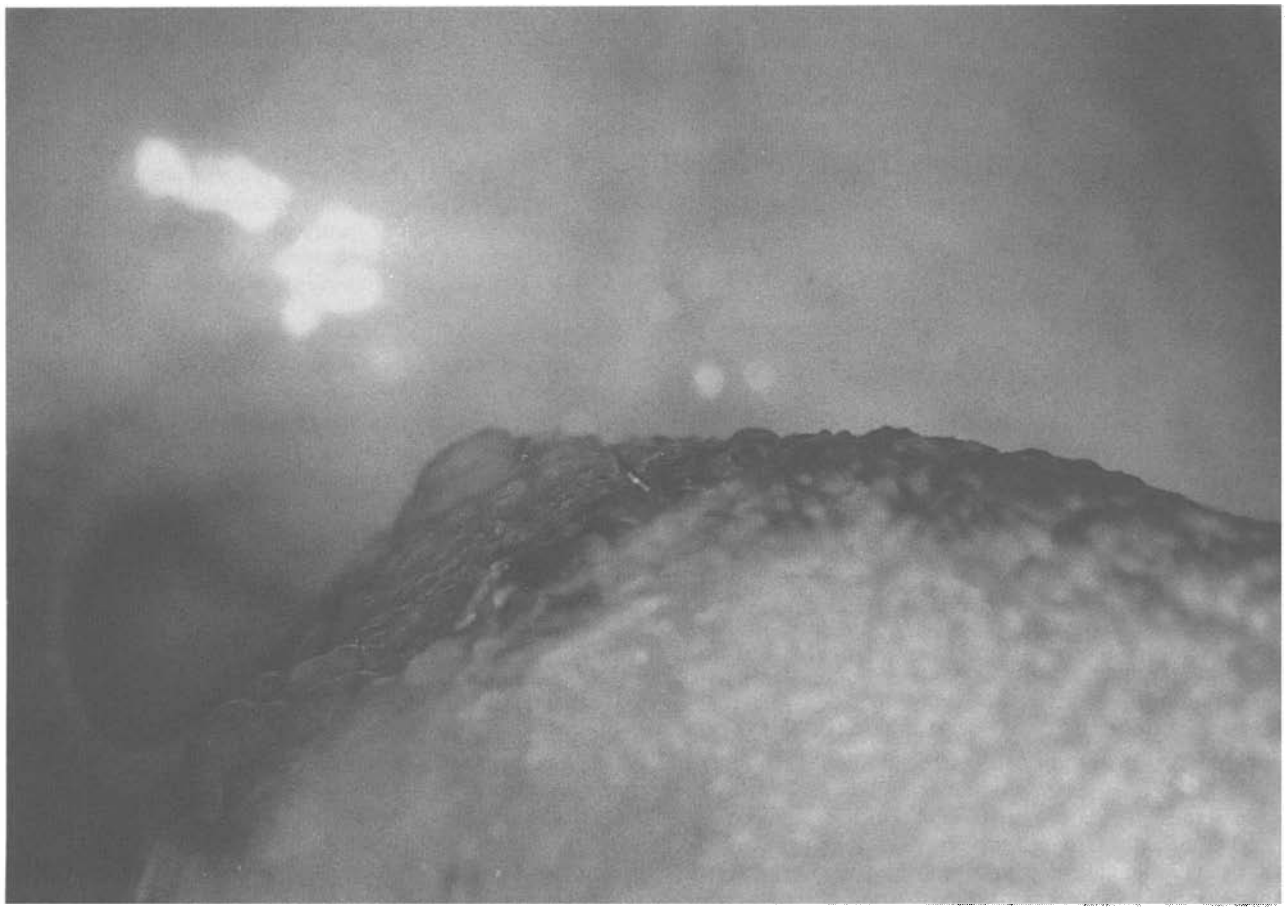

FIG. 1
Ulcerated nodule on tongue (2 cm in diameter) is shown.

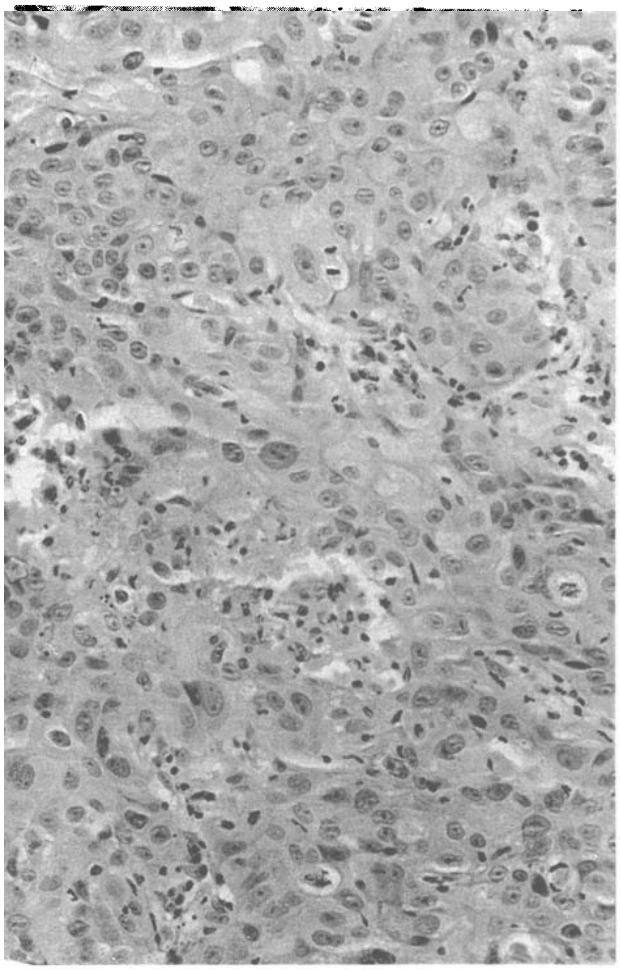

FIG. 2
Histopathology of tongue tumour. (H & E; × 400).

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nose, although often missed on examination unless the patient complains of intra-oral symptoms. Occasionally the tongue metastatis may be the first clinical indication of a primary tumour. Clinically metastatic tumour to the intra-oral soft tissues manifests itself as an exophytic reddish-pink inflammatory hyperplasic-like lesion. In our case it presented more like a nodule rather than an overt ulcerative lesion, i.e. in contrast to a primary carcinoma.

Surgery for metastatic tumour, in the form of laser excision or cryotherapy may be undertaken for symptomatic patients. Radical surgery is rarely justified as disseminated disease is common in these patients. Radiotherapy or chemotherapy (or both) is the general mode of treatment. The goals achieved by palliation are retardation of the progress of the secondaries, relief of pain and prevention of infection.

As a rule the prognosis for these patients is very poor. Our patient was offered radiotherapy to the tongue to which she responded well with no oral symptoms, nor recurrence, for 16 months, but at this stage she died of disseminated disease.

Conclusion

A case of primary bronchial carcinoma, metastatic to the tongue has been presented and the literature reviewed.

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References

Brabant, H., Demoulin, J. P. (1967) Les metastases buccales des cancers extra oraux. Etude de 332 cas. *Revue Medicale de Bruxelles* **23:** 407–417.

Hatziotis, J. Ch., Constantinidou, H., Papanayotou, P. H. (1973) Metastatic tumours of the oral cavity. Review of the literature and report of a case. *Oral Surgery* **36:** 544–550.

Oschner, A., DeBakey, M. (1942) Significance of metastasis in primary carcinoma of the lungs; a report of two cases with unusual sites of metatasis. *Journal of Thoracic Surgery* **11:** 357–387.

Permutter, S., Buchner, A., Smukler, H. (1974) Metastasis to the gingiva. *Oral Surgery* **38:** 749–754.

Schuermann, H., Geither, A., Hornstein, O. (1966). *Kraneiten der Mundschleimhaut und der Lippen*, Urban und Schwarzenberg, Berlin, pp 459–460.

Zegarelli, D. J., Tsukada, Y., Pickren, J. W., Greene, G. W. (1973) Metastatic tumour to the tongue: report of 12 cases. *Oral Surgery, Oral Medicine, Oral Pathology* **35:** 202–211.

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