The Journal of Laryngology and Otology
June 1998, Vol. **112**, pp. 581–583

Tonsillar metastasis from malignant pulmonary carcinoid tumour

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Abstract
Tumour metastases to the tonsil are rare and are usually due to spread from malignant melanoma and carcinomas of the breast, lung, kidney or stomach. We describe the clinical and histological findings of a tonsillar metastasis from a malignant pulmonary carcinoid tumour, an occurrence not previously reported.

Key words: Tonsil; Neoplasm metastasis; Carcinoid tumour

Introduction

Metastases to the tonsils are extremely infrequent, with fewer than one hundred cases reported in the world literature (Sellars, 1971; Brownson *et al.*, 1979; Monforte *et al.*, 1987; Benito *et al.*, 1996). The commonest sources of tonsillar metastasis are malignant melanoma and carcinomas of the lung, breast, kidney and stomach. All have a propensity to disseminate widely and diagnosis of the primary tumour is usually made prior to recognition of the tonsillar metastasis. However, in exceptional cases a tonsillar mass may present first (Willis, 1973; Maor *et al.*, 1983; Monforte *et al.*, 1987; Benito *et al.*, 1996; Fernandez Acenero *et al.*, 1996). In this circumstance failure to recognize the metastatic nature of the lesion can result in extensive local treatment, the true diagnosis becoming apparent only at autopsy (Willis, 1973). We present a case of tonsillar metastasis from a previously unreported primary lesion, a malignant pulmonary carcinoid tumour.

Case report

A 47-year-old man presented in November 1996 with a subcutaneous mass at the left sterno-clavicular junction. He had smoked 25 cigarettes a day for 25 years but was otherwise fit and well. Biopsy was performed and showed nests and trabeculae of regular cells with occasional mitotic figures and invasion into adjacent fat. No residual lymph node structure was identified. Immunochemistry was positive for cytokeratin, S100 protein, neurone-specific enolase and chromogranin. These results were interpreted as suggestive of metastatic carcinoid tumour. There were no symptoms of carcinoid syndrome.

Following further investigations a lesion was identified in the lower lobe of the left lung and a pneumonectomy was performed in June 1997. The tumour was a central carcinoid showing infiltration of the lung parenchyma and adjacent parabronchial lymph nodes. Nodules on the wall of the pleural cavity also showed metastatic tumour.

In August 1997 the patient presented to the ENT department with a hoarse voice which had persisted since the pneumonectomy. The clinical impression was of a vocal fold palsy due to operative damage to the recurrent laryngeal nerve. Examination confirmed a left vocal fold palsy, but also revealed a markedly enlarged left tonsil (Figure 1). No cervical lymphadenopathy was present. A presumptive diagnosis of metastatic carcinoid tumour was made and the patient underwent left tonsillectomy, from which he made an excellent recovery. Histological examination confirmed the presence of metastatic carcinoid tumour (Figure 2). An octreotide scan showed no other significant foci of tumour. The vocal fold palsy has showed little improvement over a period of six months. The patient remains well and is undergoing speech therapy to maximize compensation of the vocal fold palsy.

Discussion

Metastases to the palatine tonsil are rare. In a series of 1535 malignant tonsillar neoplasms collected at the Armed Forces Institute of Pathology between 1945 and 1976, only 12 (0.8 per cent) were metastatic (Hyams, 1978). Metastases to the lingual tonsil are even rarer (Monforte *et al.*, 1987).

The haematogenous route of spread is believed to account for the large majority of metastases to the palatine tonsil. This mode of dissemination is characteristic of melanoma and renal cell carcinoma and very common in carcinomas of the lung, breast and stomach. It accounts for the fact that tonsillar metastases are bilateral in a substantial proportion of cases and provides the only obvious pathway for some of the less common tumours which have metastasized to this site, such as carcinoma of the prostate (Brownson *et al.*, 1979), hepatocellular carcinoma (Fernandez Acenero *et al.*, 1996), Wilms' tumour (Hyams, 1978), choriocarcinoma (Kutty and Shenoy, 1971) and pancreatic carcinoma (Maor *et al.*, 1983).

Retrograde lymphatic spread of tumours to the tonsil has been suggested, but seems less likely than the haematogenous route for most tumours, especially in cases where the cervical lymph nodes are uninvolved. On anatomical grounds lymphatic spread from primary pul-

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Accepted for publication: 16 April 1998.

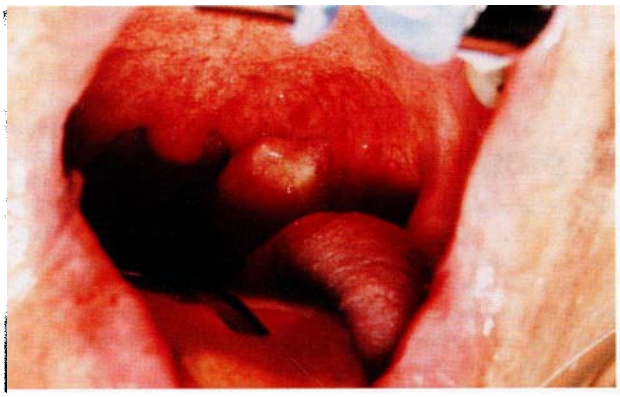
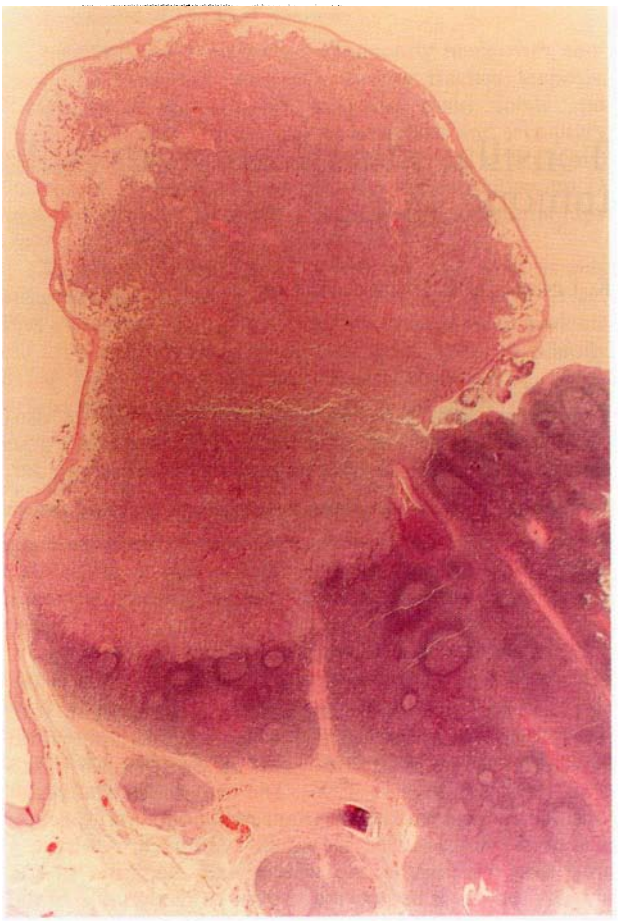


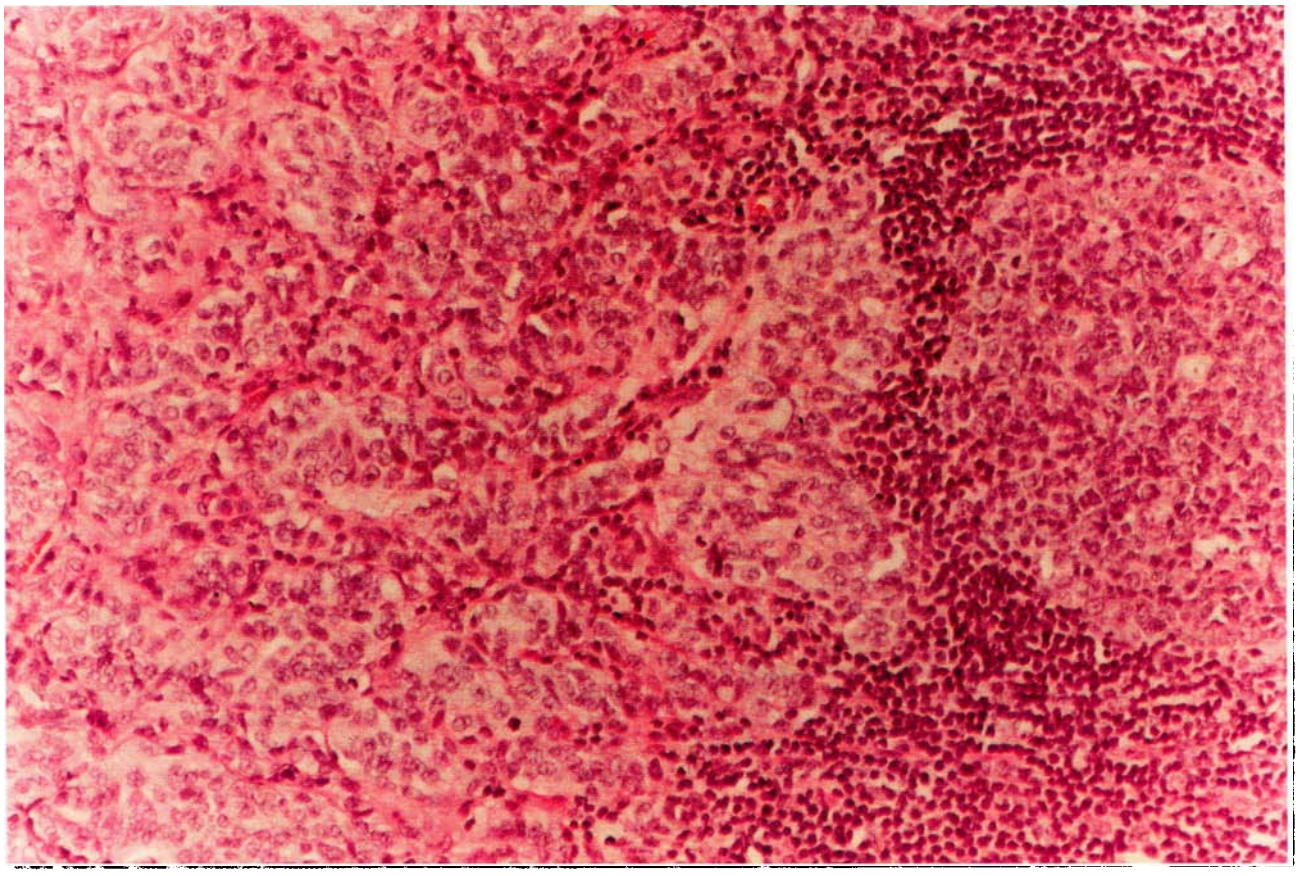
FIG. 1
View of the tonsillar mass at surgery.



(a)

FIG. 2
A. Low power view of the lesion showing a nodule of metastatic tumour within the tonsil (H & E; × 10).

B. High power view showing typical morphology of a central carcinoid tumour. The tumour cells (left) are invading a tonsillar lymphoid follicle (right) (H & E; × 325).



(b)

https://doi.org/10.1017/S0022215100141155 Published online by Cambridge University Press

monary malignancies seems more likely than for most other tumours. In our case the initial presentation was a lump in the neck, which may have been a nodal metastasis, although no residual lymphoid tissue was identified in the biopsy. The occurrence of possible cervical node involvement on the left, a left-sided pulmonary tumour and a left-sided tonsillar metastasis, in the absence of more widespread dissemination of disease, may indicate that lymphatic spread was involved in this case.

A third potential means of spread to the tonsil is direct implantation of tumour cells during instrumentation, for example following intubation or gastroscopy. In our case a pneumonectomy was performed two months before the tonsillar metastasis became apparent, so this mechanism of spread is clearly a possibility, especially since the metastatic tumour was superficially located (see Figures). Against this possibility is the fact that there appears to have been insufficient time between the pneumonectomy and finding the tonsillar mass for a slowly growing carcinoid tumour to have produced a metastasis of this size.

For previously reported cases, the mean survival time for patients with tonsillar metastasis is less than one year, irrespective of the site or type of the primary (Brownson *et al.*, 1979). However, ours is the first case of a carcinoid tumour metastatic to the tonsil. Carcinoid tumours arise from neuroendocrine cells which are present throughout the body, although they are most prevalent in the gastrointestinal tract, pancreas and bronchi, accounting for the commonest locations of the tumours (Neary *et al.*, 1997). Carcinoids usually pursue a much more indolent course than carcinomas or melanomas. The average time between onset of symptoms and diagnosis is 4.5 years and patients may survive many years or even decades with well-documented metastases. Given a successful resection of the primary tumour and limited local disease which has also been removed, our patient is expected to have a reasonably good prognosis in spite of the metastasis in his tonsil.

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