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ORIGINAL ARTICLE / RESEARCH

## Carcinoma Vallecula with Pleural Metastasis: A Rare Presentation

MUNSHI A\*, PANDEY K C\*, CHANDER B\*\*

### ABSTRACT

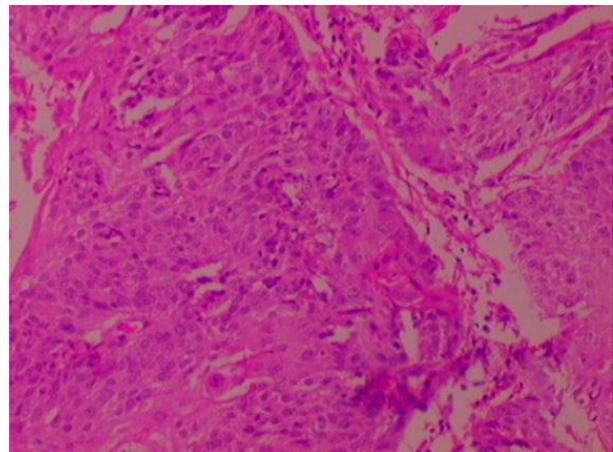
The majority of cases of head and neck malignancies have disease failure either locally or in the regional lymphatics. We are presenting a case of carcinoma vallecula who after the treatment of the primary in base of tongue presented with findings suggestive of pleural metastasis. We are discussing this unusual presentation with a relevant literature review.

**Key words:** Carcinoma vallecula, pleural metastasis

### Introduction

Although the major site of failure in head and neck cancers is locoregional, distant metastasis from these malignancies is known to occur. Crile [1] first documented the incidence of distant metastasis from head and neck cancer in 1906 and reported that the incidence was less than 1%. But since then, the reported incidence of metastatic disease in head and neck cancer is increasing. In later series, the rate of distant metastasis in head and neck malignancies has been 4.3–30.7% for clinical studies [2],[3]. This rise is probably due to recent advances in both curative and palliative treatment of the primary site [4]. This has allowed these patients to survive even when presenting in the later stages of the disease. In these cases, distant metastases are more likely to become evident with passage of time. We are presenting a case of carcinoma vallecula who developed features suggestive of

pleural metastasis in spite of being locally controlled throughout.



**[Table/Fig 1]** Photomicrograph of the tumour showing features of squamous cell carcinoma (10 $\times$ ).

### Case Report

A 47-year-old male presented with chief complaints of pain in throat and difficulty in swallowing of 6 months duration. Direct laryngoscopic (D/L) examination revealed an extensive ulceroproliferative growth over the epiglottis going into left vallecula, base of tongue, and obscuring the endolarynx completely. There were no palpable neck nodes. Biopsy showed squamous cell carcinoma

\*Departments of Radiation Oncology, Institute Rotary Cancer Hospital (IRCH), India

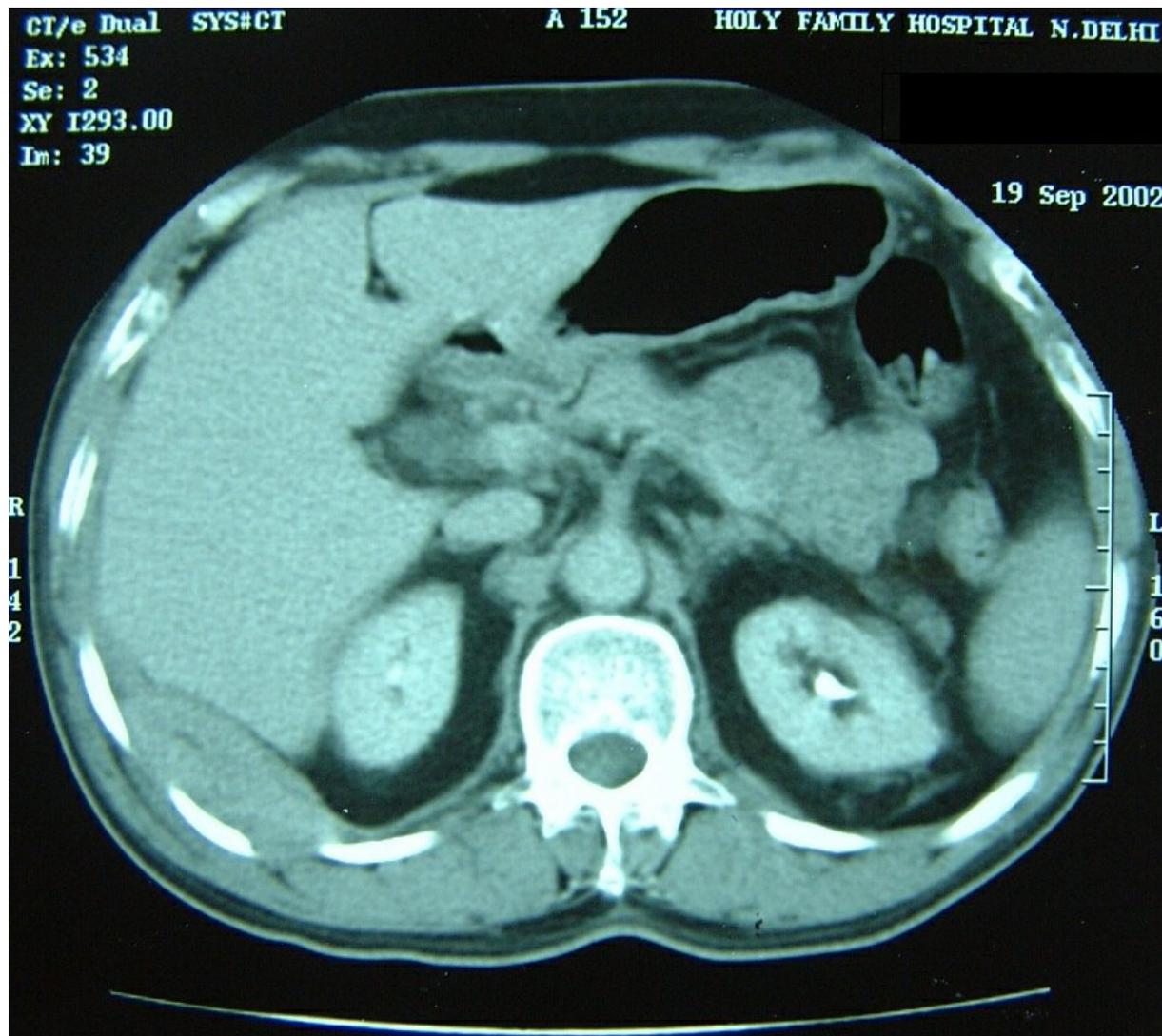
\*\*Pathology, All India Institute of Medical Sciences, New Delhi, India

Corresponding author: Dr Anusheel Munshi. Flat no 3, Shubham Apartments, TMC Staff Quarters, Sion Trombay Road, Mandala, Mumbai-400088, India.

Tel.: 9819236698; e-mail: anusheel8@hotmail.com

([Table/Fig 1]). Based on the clinical and D/L findings, he was diagnosed as a case of carcinoma vallecula T3N0M0 and was planned for radical radiotherapy to a dose of 70 Gy in 35 fractions over 7 weeks. His disease was controlled for 2 years. In January 2003, he

presented with pain in right lower chest. CT scan of the chest revealed moderate right pleural effusion and a pleural-based soft-tissue mass beneath the right 11th rib on the posterolateral aspect ([Table/Fig 2]). There was no other mass lesion in the lung or the mediastinum.



[Table/Fig 2] CT scan showing the right-sided pleural-based mass.

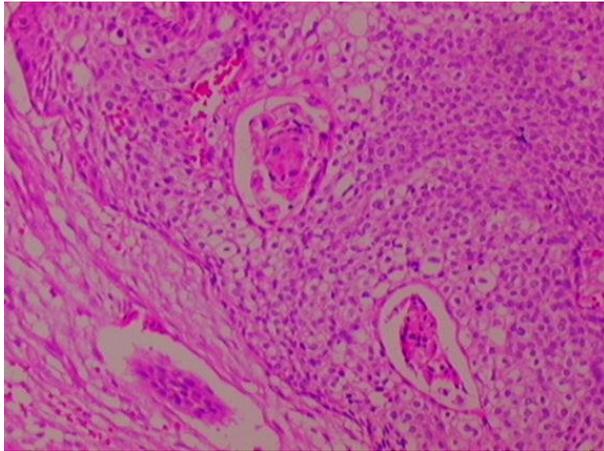
A CT-guided biopsy of the pleural mass revealed metastatic carcinoma squamous cell type ([Table/Fig 3]). Patient was treated with intercostal tube drainage and palliative radiotherapy to the pleural mass 8 Gy in one fraction in February 2003. In his last follow-up in May 2003, he had recurrence of pain in the involved area after having relief for about 2 months after radiotherapy.

## Discussion

The reported incidence of metastatic disease in head and neck cancer is increasing. This rise is probably due to recent advances in both curative and palliative treatment of the primary site. This has allowed these patients to survive in the later stages of the disease, where distant metastasis is more likely to become evident. T and N stages, as well as control of the primary lesion, influence the incidence of metastasis. Locally advanced lesions (T3 and T4), poorly differentiated tumours, and lymph node metastasis increase the risk of distant metastasis.

Cancers of nasopharynx, larynx, and hypopharynx have greater predilection for distant metastasis than oral lesions [4],[5].

There are two broad presentations while considering pleural metastasis. One is malignant pleural effusion, which is the commoner occurrence. The other and the lesser common is the solid pleural-based metastatic lesion. Our case uniquely had both of these findings.



**[Table/Fig 3]** Photomicrograph of the biopsy from the pleural mass revealing metastatic squamous cell carcinoma (10×).

Malignant pleural effusions are caused most commonly by carcinomas of the breast, lung, gastrointestinal tract, or ovary and by lymphomas. In male patients about half of malignant effusions are caused by lung cancer, 20% by lymphomas or leukaemia, 7% from gastrointestinal primaries, 6% from genitourinary primaries, and 11% from tumours of unknown primary site. In female patients, about 40% of malignant effusions are caused by breast cancer, 20% from tumours arising in the female genital tract, 15% from lung primaries, 8% from lymphomas or leukaemia, 4% from gastrointestinal tract primaries, 3% from melanoma, and 9% from tumours of unknown primary site [6],[7]. Occasionally, rare sites such as papillary meningiomas and gingiva have metastasised to the pleura [8],[9].

Effusions may be secondary to impaired pleural lymphatic drainage from mediastinal tumour (especially in lymphomas) and not due to direct pleural invasion. Exudative effusions are caused by infection or malignancy. In the absence of infection, an exudative pleural effusion,

especially if it is bloody, strongly suggests a malignant aetiology. Effusions due to lymphoma or mediastinal involvement by any tumour may be chylous and cytologically negative. About half of effusions ultimately diagnosed as malignant will have a positive cytology from the initial thoracentesis.

The occurrence of solid pleural-based metastasis is rare and its exact incidence is not known. Only isolated case reports mention this presentation. Primary squamous cell lesion cannot arise in pleura since pleura has only an endothelial lining. This further supports our argument that this lesion was a metastatic lesion. It is difficult to relate the pleural lesion to the radiation received for the primary head and neck cancer since the pleural lesion was well away from the head and neck area. This case is unique because the patient on follow-up presented with isolated pleural metastasis and pleural effusion without any evidence of other systemic metastasis. To our knowledge, this is the first case of pleural metastasis from carcinoma of the vallecula, and this has not been reported in literature. In spite of an extensive literature research, we could find only one case report of a head and neck malignancy metastasising to the pleura [9]. In this case, the surgical margins were negative, but there was direct invasion into the mandibular bone and metastasis to the regional lymph nodes was observed.

The management of pleural metastasis depends on the presentation. About 25% of effusions do not require therapy, as the effusions are small and stable. Malignant effusions caused by lymphomas, breast cancer, small cell lung cancer, or ovarian cancer may respond to systemic chemotherapy or hormonal therapy. Patients who have received extensive prior systemic therapy and those with chemotherapy-resistant tumours, like non-small cell lung cancer, are not likely to respond to systemic therapy. Palliative approaches to the management of malignant pleural effusions are necessary in such patients.

Patients with symptomatic malignant pleural effusions whose underlying cancer is unlikely to respond to systemic treatment should have their pleural fluid drained. Patients with relatively large (>1 l) recurrent effusions whose symptoms resolve with drainage and whose lung can fully expand are candidates for palliation. Two

general approaches to the palliative management of symptomatic pleural effusions are chest tube drainage with installation of a sclerosing agent and thoracoscopic drainage of the pleural effusion under local or general anaesthesia with intraoperative sclerosis of the pleural space [10]. For solid metastasis, radiotherapy has a role in achieving palliation of symptoms. In case of chemosensitive primaries, chemotherapy may be given but the outcome is not very satisfactory.

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