

## Coexisting granular cell myoblastoma and squamous carcinoma of the bronchus

SS HURWITZ, AA CONLAN, MCD GRITZMAN, LH KRUT

*From the Departments of Medicine (Respiratory Unit) and Cardio-Thoracic Surgery, Baragwanath Hospital; School of Pathology, South African Institute for Medical Research; and the University of the Witwatersrand, Johannesburg, South Africa*

Granular cell myoblastoma is a rare tumour of uncertain origin. The tongue, subcutaneous tissue, and breast are the sites most frequently affected, but almost every body tissue has been involved; the lower respiratory tract being very rarely affected. The growth is usually single but multiple tumours occur in approximately 10% of cases. A variety of unrelated neoplasms are found in approximately 13% of these patients.<sup>1</sup> This communication reports the rare, and possibly unique, occurrence of a granular cell myoblastoma of the left main bronchus coexisting with a squamous carcinoma of the right major airway.

### Case report

A 58-year-old Black man was admitted to hospital complaining of cough, intermittent haemoptysis, and central chest pain for five months. He had no other symptoms. For most of his adult life he had been a pipe-smoker. He had never smoked cigarettes. Examination revealed an emaciated man with clubbing of the fingers and clinical signs of a collapsed left lung.

A chest radiograph (fig 1) confirmed the clinical findings. Cytological examination of the sputum revealed the presence of markedly atypical metaplastic cells. Bronchoscopy demonstrated a whitish tumour mass in the left main stem bronchus which occluded the lumen. The mucosa of the right bronchus just distal to the carina looked irregular. Biopsies were taken of the tumour in the left main bronchus and of the irregular right bronchial mucosa. The histological features of the tumour in the left bronchus showed normal respiratory epithelium without pseudoepitheliomatous hyperplasia. Underlying the epithelial surface were granular cells with small dark nuclei, large fusiform cells with elongated nuclei, and other cells with eosinophilic cytoplasm (fig 2); features compatible with the diagnosis of a granular cell myoblastoma. Histological examination of the specimen from the right main bronchus revealed an infiltrating, moderately well-differentiated squamous carcinoma.

The treatment of this patient was problematic. The proximity of the squamous tumour to the carina contraindicated surgical therapy, leaving radiotherapy as the alternative. The myoblastoma could have been removed via a transthoracic bronchotomy, by endobronchial resection, pneumonectomy, or lobectomy.

Address for reprint requests: Dr SS Hurwitz, Department of Medicine, Baragwanath Hospital, PO Bertshan, Johannesburg 2013, South Africa.

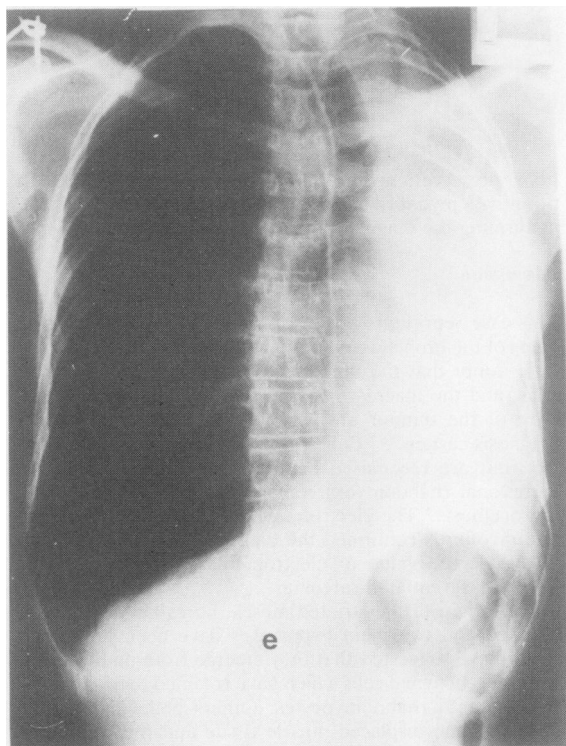


Fig 1 Posteroanterior radiograph illustrating the collapsed left lung. The mediastinum is shifted to the left. The right lung is hyperinflated.

Pneumonectomy and lobectomy were rejected in view of the presence of an inoperable associated squamous carcinoma. Endobronchial resection was considered the most appropriate treatment, but was rejected by the patient. Radiotherapy was not considered as the myoblastoma is unresponsive. The patient died two weeks after admission.

### Discussion

The granular cell myoblastoma is one of the rarest tumours of the bronchus. It occurs in the subsegmental, segmental, or main stem bronchi causing symptoms as a result of airway obstruction. Other manifestations

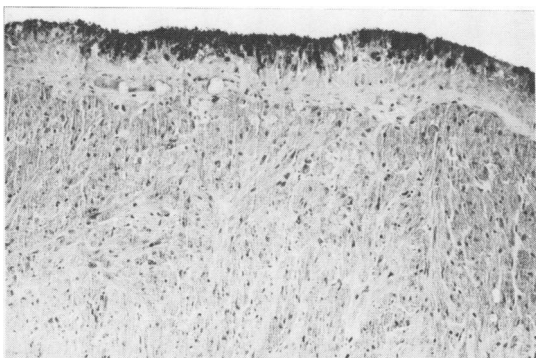


Fig 2 Normal respiratory epithelium overlying the granular cell myoblastoma as described in the text. Periodic Acid Schiff stain. Original magnification  $\times 180$ .

include haemoptysis, dyspnoea, cough, and chest pain.<sup>2</sup> These non-specific clinical features and the variable endoscopic findings make a clinical diagnosis difficult. The cytological characteristics of exfoliated granular cells and their differentiation from respiratory epithelial cells and macrophages has been described. These cells may be found in sputa, bronchial washings, or brushings and could suggest the diagnosis.<sup>3</sup> Most myoblastomas are benign and spread by local extension. Very rarely malignant transformation occurs and distant metastases are possible. Of particular interest is the propensity of this tumour to induce atypical hyperplasia in the overlying epithelium, making differentiation from squamous carcinoma difficult. It has been suggested, therefore, that squamous carcinoma should never be diagnosed in the

presence of granular cell myoblastoma.<sup>4</sup> There are, however, reports of these two tumours coexisting—one of a squamous carcinoma and granular cell myoblastoma of the larynx,<sup>5</sup> one of a laryngeal carcinoma arising at the site of a previously excised myoblastoma,<sup>1</sup> and one of an endobronchial myoblastoma with a coexisting epidermoid tumour of the opposite lung.<sup>6</sup>

Despite the presence of two physically distinct and separate growths, with different histological features, consideration was given to the possibility of local sub-mucosal extension of the myoblastoma into the right major airway with induction of epithelial atypia mimicking squamous carcinoma in the overlying epithelium. The histology of both specimens were reviewed in the light of the above possibility and the latter consideration excluded. Thus two synchronously occurring tumours were present, an infrequent occurrence, occurring in less than one per cent of lung cancers.

#### References

- <sup>1</sup> McSwain GR, Colpitts R, Kreutner A, O'Brien PH, Spicer S. Granular cell myoblastoma. *Surg Gynecol Obstet* 1980; **150**:703-10.
- <sup>2</sup> Schulster PL, Khan FA, Azueta V. Asymptomatic pulmonary granular cell tumour presenting as a coin lesion. *Chest* 1975;**68**:256-8.
- <sup>3</sup> Glant MD, Wall RW, Ransburg R. Endobronchial granular cell tumour. *Acta Cytologica* 1979;**23**:477-82.
- <sup>4</sup> Boath JB, Osborn DA. Granular cell myoblastoma of the larynx. *Arch Otolaryngol* 1970;**70**:279-93.
- <sup>5</sup> Goldstein A, Thaler S, Rozyeki D. Granular cell myoblastoma, and carcinoma of the larynx. *Arch Otolaryngol* 1971;**94**:366-8.
- <sup>6</sup> Dabouis G, Nomballais MF, Naury B, Peltier P, Morineau JF, Corroller J. Tumeur d'Abrikossoff endobronchique. *Poumon Coeur* 1979;**35**:211-6.