Primary pedunculated leiomyosarcoma of the lung

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Primary mesenchymal tumours account for a small percentage of all pulmonary neoplasms. In the group of primary sarcomas leiomyosarcomas are rare. Ochsner and Ochsner¹ performed the first successful pneumonectomy for a leiomyosarcoma of the lung in 1936. Ramanaathan² reported three more cases in 1974 and collected 32 published cases. His figures show that primary leiomyosarcomas of the lung are rare, and to our knowledge there has been no previous report of a pedunculated leiomyosarcoma.

Case report

A 59-year-old housewife was admitted to the Surgical Department of this Hospital in May 1975 because at a radiological examination a mass was seen in the right lung. Four months before admission the patient had complained of pain in the right side of the chest. Since then the pain had increased but remained localised. She had lost 6 kg in weight. On physical examination a respiratory murmur was heard at the base of the right hemithorax. The ESR was 20 mm in the first hour. The chest radiograph (fig 1) showed a large round mass with sharp borders and homogeneous density. The lateral radiograph showed that the mass was posterior. The

Fig 1 Chest radiograph taken on admission, showing a well-defined tumour shadow in the right upper lobe.

tomograms showed no connection to the mediastinum. Cytology of the sputum and bronchoscopy findings were negative. There was no evidence of an occult primary tumour elsewhere in the body.

At thoracotomy a large round tumour was found. It was encapsulated and it had a pedicle which emerged from the tumour and attached it to the posterior segment of the right upper lobe. There was no pleural effusion and no mediastinal nodes were found. The posterior segment was removed. The tumour weighed 400 g and measured 11 × 8 × 6 cm. Its pedicle was 3 cm long and 1 cm in diameter. The tumour was firm and solid, greyish-white in some areas and yellowish in others. There was no central necrosis (fig 2). Microscopically the tumour was very rich in atypical muscle cells, many showing atypical mitosis and hyperchromatic nuclei, all characteristic features of leiomyosarcoma (fig 3).

Fig 2 Appearance of the cut surface.

Fig 3 Photomicrograph of the excised specimen, showing atypical cells and mitotic figures. H and E, × 400.

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The postoperative course was uneventful. A complete examination did not reveal metastases or a primary tumour elsewhere in the body. During the five year period since the operation, the patient has remained well.

Discussion

Smooth muscle is present in the bronchi and in the vessels of the lung, but it is generally believed that the majority of leiomyosarcomas arise from the bronchial wall.³ In this case, the origin might have been vascular as the tumour emerged through a pedicle arising from the periphery of the parenchyma of the lung.

The symptoms, clinical and radiological signs resemble those of bronchial carcinoma. The majority of leiomyosarcomas do not metastasise to lymph nodes—a characteristic of mesenchymal tumours of the lung—but via the blood vessels. Thoracotomy is usually necessary for diagnosis⁴ although endoscopic or needle biopsy may reveal the diagnosis. Sputum cytology is unhelpful as these tumours rarely exfoliate. The diagnosis of primary leiomyosarcoma can only be accepted if there is no primary elsewhere in the body. The uterus must be

examined thoroughly in female patients.²

The treatment, when possible, is surgical as radiotherapy and chemotherapy have been ineffective in this type of lesion. The treatment of choice is surgical excision. Local excision or segmental resection are as effective as more radical procedures because spread is not via the regional lymphatics. Leiomyosarcomas of the lung once resected surgically are of a relatively good prognosis.⁵ The results are better than those of primary bronchial carcinoma.

References

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