Multiple cystic pulmonary hamartomas

M Mushtaq, S P Ward, J T Hutchison, J S Mann

Abstract

A patient with multiple cystic hamartomas presented with a pneumothorax and later developed a cystic myxomatosus vaginal polyp. This and three of the cysts were resected. She remains well 13 years later. Multiple cystic hamartomas are uncommon and may be misdiagnosed as pulmonary metastases.

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We report a case of multiple cystic hamartomas in which a cystic myxomatosus vaginal polyp later developed.

Case report

A 47 year old housewife presented with breathlessness and cough, which had been preceded by a small haemoptysis. She was otherwise well. Examination showed no abnormality but a chest radiograph showed 12 rounded opacities varying from 5 mm to several centimetres in diameter, suggesting metastases, though her general appearance belied this diagnosis. Some of the nodules were cystic and contained fluid levels. There was a small left pneumothorax (fig 1). Cytological examination of sputum showed no abnormality and tests for hydatid and rheumatoid disease gave negative results. Because of concern that the opacities might represent pulmonary metastases she underwent left thoracotomy, at which a large cyst was found in the greater fissure arising from the upper lobe, with two further cysts arising from the lower lobe. All three were removed by wedge resection.

Macroscopically, two of the cysts had fleshy tissue hanging from their inner walls; the third was almost solid. Microscopically, the appearances were of pulmonary hamartomas consisting of cystic spaces lined by cuboidal and mucus secreting columnar epithelium. The stroma consisted of mesenchyme (fig 2).

Over the subsequent 13 years the hamartomas fluctuated considerably in size. Typically they increased in size until cavities developed, often with fluid levels, and then shrank, though some regions were uninvolved. Antibiotics were often prescribed because of concern about superinfection.
of a tissue normally found in an organ and has traditionally been regarded as a developmental abnormality arising from vestiges of fetal tissue. Many, however, now regard hamartomas as benign neoplasms, probably derived from bronchial wall mesenchymal cells. They are usually solid, well circumscribed nodules, mostly less than 4 cm in diameter, and about 15% are calcified.

Cystic pulmonary hamartomas are extremely rare, only 12 cases having been described previously, and we are aware of only four other cases of multiple cystic hamartomas. As in the present case, the previously reported hamartomas have pursued an indolent course, one patient having survived 28 years before dying from an unrelated cause. The nodules may increase in size and number, occasionally cavitating to become smaller and cystic. Rupture of subpleural cysts may result in a pneumothorax, as in this case, or a haemothorax. Mild haemoptysis may occur and severe haemorrhage from systemic vessels feeding a cyst has been reported.

The association of a myxomatous vaginal polyp with multiple cystic hamartomas in our patient raises the possibility that they were related. In one previous case of multiple cystic pulmonary hamartomas a tumour of the umbilicus was removed. The tumour comprised primitive mesenchymal cells similar to those in the lung. The authors suggested that this was a metastasis. We believe that the more likely explanation is that multiple cystic hamartomas of the lung are associated with a predisposition to mesenchymal hamartomas elsewhere in the body. An association of pulmonary hamartoma and benign tumours in other organs has been described and pulmonary hamartomas are a rare manifestation of Cowden’s syndrome, a genodermatosis inherited as an autosomal dominant.

The fact that sarcomatous change in cystic hamartomas of the lung in childhood has been reported lends support to the removal of cystic hamartomas in children.

Multiple cystic hamartomas of the lung are most likely to be confused with metastatic carcinoma. Other differential diagnoses include hydatid disease in endemic areas, rheumatoid nodules, multiple tuberculosis, and—less likely—bronchogenic cysts and bullous emphysema. The condition follows a benign course but may be associated with extrapulmonary myxomatous hamartomas.

Discussion
A hamartoma is a localised excess or deficiency of some tissue that is normally found in an organ and is probably derived from vestiges of fetal tissue. Many, however, now regard hamartomas as benign neoplasms, probably derived from bronchial wall mesenchymal cells. They are usually solid, well circumscribed nodules, mostly less than 4 cm in diameter, and about 15% are calcified.

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4 Adams MJT. “Pulmonary hamartoma” (the cartilaginous type). Thorax 1957;12:268-75.