LUNG CANCER AND BULLOUS DISEASE — A CASE REPORT

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SYNOPSIS

A case is reported with lung cancer and bullous disease of the lung, and a probable second primary cancer in the tonsil.

It has been recognised for sometime now that there is an increased incidence of lung cancer in patients with bullous disease of the lung. (Korol (1953), Goldstein et al (1968), Stoloff et al (1977)) We report a case with lung cancer and bullous disease, and with in addition what we strongly suspect to be a second primary cancer in the tonsil.

CASE REPORT

A 38 year old Malay man was seen on 27/2/78. He had been accidentally hit on his right chest with a stone about a month earlier. Following that he had a slight ache in his chest and haemoptysis. There was no purulent sputum, fever or pleurisy. However he did lose his weight and appetite that month. He smoked about 10 to 20 cigarettes a day for nearly 20 years, and heroin daily for about five years. His effort tolerance was good — he worked as a manual labourer without any difficulty — but he admitted to having a chronic cough intermittently productive of whitish sputum for as long as he could remember.

Clinically his general condition was satisfactory. His fingers were clubbed and there were occasional rhonchi in his lungs. There was no peripheral lymphadenopathy or hepatosplenomegaly. The pharynx and tonsils were normal. Chest x-ray revealed an opacity in the right upper lobe with cystic changes in both apices. (Fig. 1). After bronchoscopy and tomography he was offered surgery but he refused.

After three months of follow-up he consented to surgery. Clinical examination did not reveal any change. At operation on 7/6/78, a tumour 10 × 10 cm. was found in the postero-inferior portion of the right upper lobe; the chest was studded with secondaries, and the right upper and middle lobes were filled with multiple huge lung cysts. A right upper and middle lobectomy was done. The histology was reported as undifferentiated carcinoma of the lung. He recovered satisfactorily from his operation, and had post operative palliative radiotherapy.

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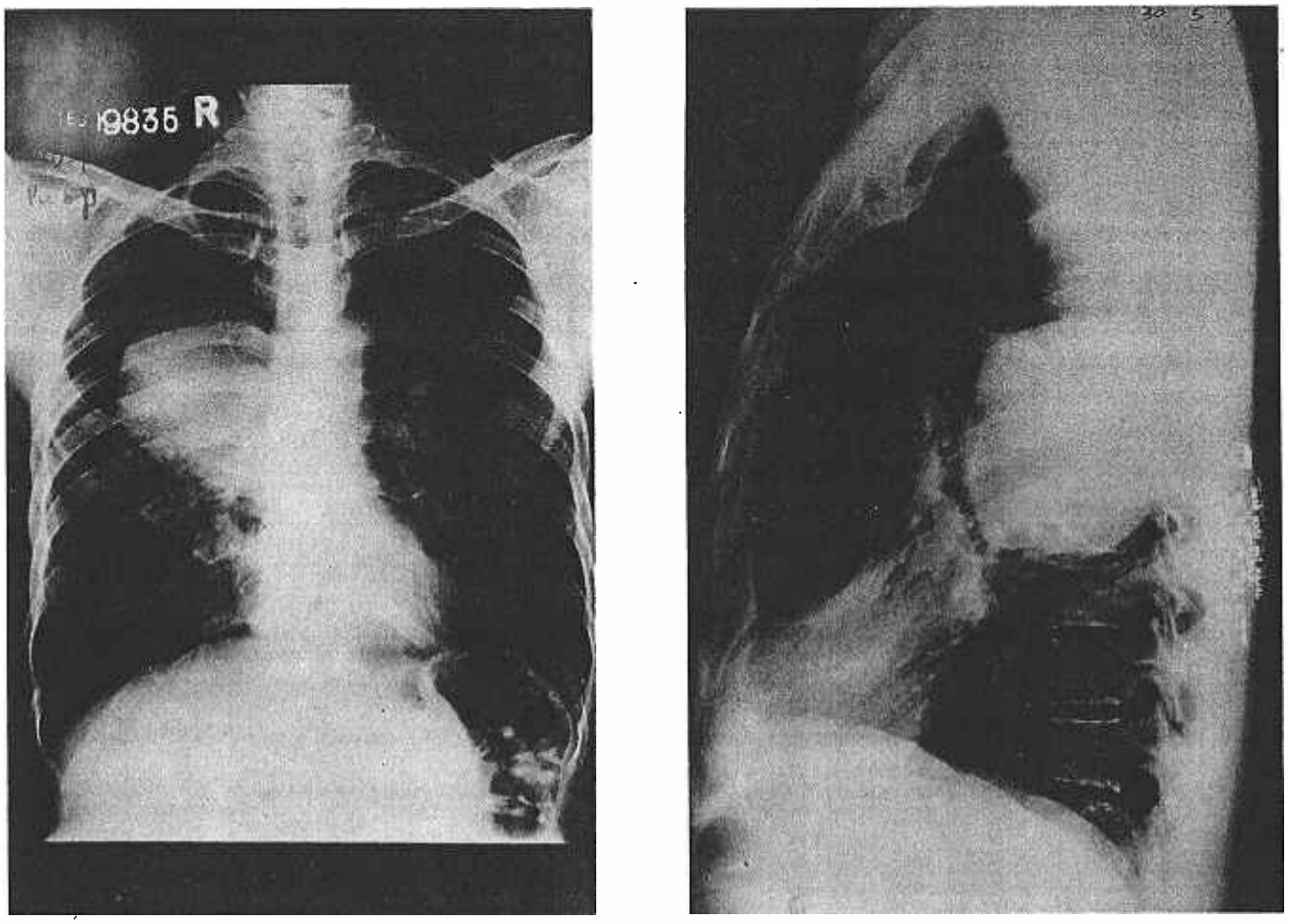

Figure 1

On 24/6/78 he complained of a sore throat. Examination revealed a whitish two cm. mass protruding from the left tonsil. A biopsy done showed infiltrative poorly differentiated carcinoma. The tonsillar mass increased in size producing dysphagia. Palliative radiotherapy to the tonsil relieved the dysphagia, and he was discharged from hospital.

His final admission was on 13/9/78. He was moribund with marked wasting, right eye proptosis, continuing epistaxis and fever. He died on 16/9/78.

DISCUSSION

In 1953 Korol reviewed 500 cases of what he called congenital cystic emphysema. 45 of the cases had lung cancer, giving an incidence of 9%, compared with an incidence of 1.5% of lung cancer among adult autopsies at that time. He also reported 10 cases. He concluded that there was an increased incidence of lung cancer in patients with congenital cystic emphysema, and that the cancer tended to occur at an earlier age. Goldstein et al in 1968 reviewed 411 cases of lung cancer and found 18 patients with giant bullous disease (an incidence of 3.9%), compared with 411 controls among whom there were only seven with bullous disease (an incidence of 1.7%) confirming the association of lung cancer with bullous lung disease. From his study, he made the following conclusions:

1. Sputum cytology was useful in the diagnosis of lung cancer in these patients.
2. Clubbing was unusually frequent occurring in nine of 18 patients.
3. The association of bullous disease with lung cancer further worsens the already poor prognosis of lung cancer from the view point of pulmonary function.
4. Most had bilateral bullous disease; all had apical bullae.
5. Chest x-ray surveillance is recommended for patients with bullous disease.

In 1971, Stoloff et al also found an increased incidence of lung cancer among patients with bullous lung disease. He advised that these patients should stop smoking and have periodic chest x-rays.

Several explanations have been put forward to explain this association.

1. Cancer giving rise to peripheral bullae by partial obstruction.

2. Cancer masquerading as a thin walled cyst. Peabody et al (1957)

3. Poor ventilation of the bullae and thus poor clearance of inhaled carcinogens.

4. Cigarette smoking giving rise to both bullous disease and cancer.

Our patient is a fairly illustrative case. He was relatively young, as were many of Korol's cases. He was clubbed, had bilateral bullous disease and had apical bullae, in agreement with Goldstein's findings. In addition, he had this tonsillar tumour four months after the detection of the lung tumour. While it is true that he had multiple secondaries in the chest as found during operation, it is very unlikely for a primary lung cancer to spread to the tonsil. The other possibility which is even more remote is that he had had a small tonsillar cancer which was clinically undetectable initially and which had given rise to a huge solitary secondary in the lung when he presented at first. Also, the blood supply in a bulla is decreased making it less likely for a metastatic deposit to find its way there. Therefore, we think it very likely that in addition to this rare association of lung cancer and bullous disease, our patient had a second primary tumour arising in the tonsil.

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