Unilateral Hyperlucent Lung Field in Subcutaneous Emphysema

To the Editor:

Unilateral hyperlucency of the lung field was observed radiographically in a patient who had subcutaneous emphysema limited to the ipsilateral side. Subcutaneous emphysema causing unilateral hyperlucency has not been reported before.

CASE REPORT

A 66-year-old man sustained fractures of the seventh, eighth, and ninth ribs in the midaxillary line on the right side. A small subcutaneous emphysema was noted at the site of injury, and a 40-percent pneumothorax was noted on the right side. The patient was dyspneic.

A chest tube was inserted, and the pneumothorax showed considerable clearing; however, the subcutaneous emphysema increased gradually and extended to the face, neck, and abdomen. Surprisingly, no subcutaneous air was detected on the left side of the chest. It was believed that the tight suture around the tube had helped the air to escape into the subcutaneous space, and the sutures were loosened. Since then, the subcutaneous emphysema gradually subsided and was completely reabsorbed in about 12 days. On the fourth day the pneumothorax was completely clear, and on the sixth day the chest tube was removed.

A chest x-ray film was taken on the sixth day prior to the removal of the tube (Fig 1). The pneumothorax had cleared, with full reexpansion of the lung. Subcutaneous emphysema was seen on the right side but not on the left side, and there was hyperlucency of the right lung field. Other conditions that produce unilateral hyperlucency were carefully excluded. A chest x-ray film taken after the subcutaneous emphysema was completely absorbed showed a normal appearance.

DISCUSSION

Unilateral hyperlucency has been observed in the following conditions: (1) abnormalities of the thoracic wall, such as congenital absence of the pectoral muscle, atrophy due to disuse of the muscles of the chest secondary to amputation of the arm or after radical mastectomy or excision of the back muscles, and scoliosis; (2) intrathoracic lesions, such as MacLeod's syndrome, agenesis of the lung, agenesis or hypoplasia of the pul-

References

1 Stein HL: Roentgen diagnosis of congenital absence of pectorals muscle. Radiology 83:63-66, 1964