SINGLE LARGE CYST OF THE LUNG SIMULATING A HIGH-PRESSURE PNEUMOTHORAX

BY

E. H. HUDSON, M.B., M.R.C.P.

Assistant Physician, West London and London Chest Hospitals

(WITH SPECIAL PLATE)

Continental and American literature contains a number of references to this condition, but I am able to find very few in our own. Possibly, therefore, some cases have been overlooked and a mistaken diagnosis of spontaneous pneumothorax has been made. If the cyst contains fluid or is infected the condition may be mistaken for effusion or empyema (Roberts, 1937–8). The following case, in which a lung cyst occurred in a child, may be of interest.

Case History

The patient, who was born on April 1, 1936, was a first child, and labour was normal, lasting nine and a half hours. He was a good colour, and progress was normal until the age of 6 weeks. Up to this time the only abnormality noticed was a curious clucking noise he made; but, as the nurse said, "They do make funny noises." He was circumcised successfully under an anaesthetic. When 6 weeks old he was having his evening feed (at 6 p.m.) from the breast, when he stopped feeding and started to scream and to claw at his mother, "as if he was frightened to death. He would not stop screaming, and shortly became dark-coloured, and towards the end was ashen cold and sweaty."

He was seen by his doctor at 7.45 p.m., but as he was sleeping was not examined. He was successfully fed at 11 p.m., and slept fitfully that night. The next day he cried more than usual, and after he had been at the breast a little while he struggled and became cyanosed, "as if fighting for his breath." The mother was now thoroughly alarmed, and took him to the clinic, where he was "sounded." Nothing abnormal was discovered, and the mother was reassured. Since the difficulty seemed to be in sucking the breast, he was weaned, and was bottle-fed from now on.

For two weeks he seemed to be normal, but then had a minor attack and was again taken to the clinic. He was referred to the West London Hospital with classical signs of a pneumothorax. The *x*-ray appearances were also at first mistaken for spontaneous pneumothorax, but the absence of the pulmonary knuckle, the rounded mediastinal margin, and the filaments of lung tissue in the costo-phrenic angle and at the apex aroused suspicion. A radiograph was taken with a less penetrating ray (Plate, Fig. 1), which showed clearly the pulmonary remains at the apex and the base. The diagnosis was therefore changed to "lung cyst, probably of the middle lobe," and the possible treatment was discussed with my colleagues. Unfortunately a congestive attack forced the issue, and a Chandler lipiodol cannula and trocar was thrust in the fourth space just lateral to the nipple line. This relieved the symptoms immediately; in a few moments the child was a normal healthy pink and laughing contentedly.

Fig. 2 (see Plate) shows the danger, for now we had a leaking cyst, a partially expanded lung, and a pneumothorax. The anticipated result came in a few hours. The child coughed, the cannula was withdrawn from the cyst by the separation of the pneumothorax, the cyst blew up again, and the child nearly died. A Morland pneumothorax needle, kept in readiness for this emergency, was quickly thrust through the chest wall into the cyst, and again in a few moments the child returned to normal. Mr. Harvey Jackson operated immediately. On opening the chest in the fourth interspace in front the cyst presented at the opening like a purple balloon. It was sutured to the sides of the incision by a continuous suture, a drainage tube being sewn into the cyst and a one-way valve fitted to help the respiration and allow drainage. For the next three weeks the child appeared to progress satisfactorily (Fig. 3), but unfortunately the cyst became infected, an empyema formed between the lung and the mediastinum, and the child developed bronchopneumonia and died.

POST-MORTEM EXAMINATION

Owing to the adherence of the lung it was extremely difficult to remove from the thorax, and consequently was much damaged. It was not possible to say exactly whence the cyst arose. The upper and lower lobes of the right lung were normal; although there was a small middle-lobe bronchus it was impossible to locate the middle lobe accurately. A fragment of the cyst wall showed columnar-celled lining.

Commentary

Since small infants suffering from diseases of the chest are seldom seen by those interested in this group of diseases, it should be remembered that, although these cases are rare, spontaneous pneumothorax is also exceedingly rare in infancy, and this possible alternative diagnosis should be considered very seriously in every case suggesting a suffocative or non-absorbing pneumothorax.

Two courses of treatment appear to be open: (1) a two-stage operation on the lines of that performed for drainage of a lung abscess, with fixation of the pleural layers and marsupialization of the cyst at a second operation; (2) total removal of the cyst or pneumonectomy.

The dangers of the condition are: (1) Faulty diagnosis and treatment as for a pressure pneumothorax, by the insertion of a trocar and cannula: the danger of this procedure is adequately illustrated in the above case history. (2) Infection of the cyst, with empyema formation and bronchopneumonia; this again is well illustrated in the present case. The majority of cases recorded seem to have ended fatally because the true diagnosis was not apparent. They have mostly been treated as cases of pressure pneumothorax and have succumbed to a congestive attack, due no doubt to the air leaking from the cyst into the pleural cavity. The ideal treatment is total removal of the cyst or even pneumonectomy.

I am indebted to Dr. Sidney Owen, who referred the case to me, for the details of the history; and to Dr. H. Post for his help with the radiographs.

REFERENCE

Roberts, J. E. H. (1937–8). *Proc. roy. Soc. Med.*, **31**, 120.

Last year the League of Nations, in accordance with a request from the Chinese Government, collaborated with the Chinese health authorities in widespread epidemiological work, particularly for the prevention of cholera, small-pox, typhus, and malaria, among the civil population in North, Central, and South China. For this purpose ten senior medical officers, with the necessary transport, laboratory equipment, and drugs, were maintained by the League in China throughout the year. At the last Assembly of the League the Chinese delegation urged that this valuable work should be continued, and the Assembly voted a further sum of 1,500,000 Swiss francs to continue the technical assistance to China, particularly with reference to the control of epidemics. In furtherance of this decision Dr. Melville D. Mackenzie of the League of Nations Secretariat is immediately proceeding to China by air as the Secretary-General's representative. He will discuss with the Chinese Government at Chungking and with the Epidemic Commission the lines upon which work should be carried out during the present year and the modifications to be introduced in the light of last year's experience.

E. H. HUDSON: SINGLE LARGE CYST OF LUNG SIMULATING HIGH-PRESSURE PNEUMOTHORAX

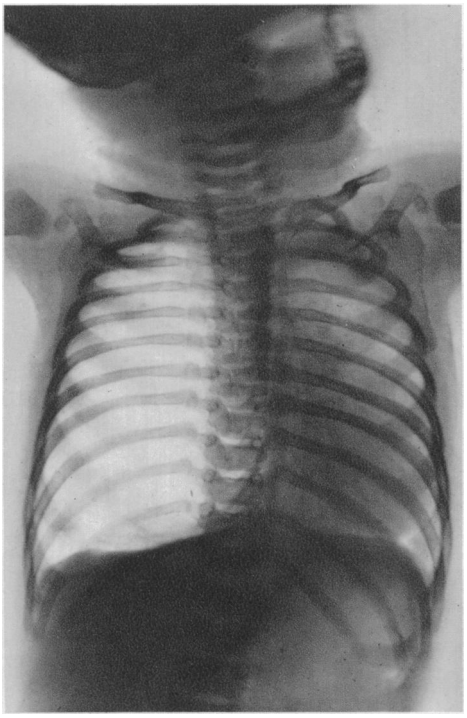


FIG. 1.—Radiograph showing the pulmonary remains at the apex and the base. August 13, 1936.

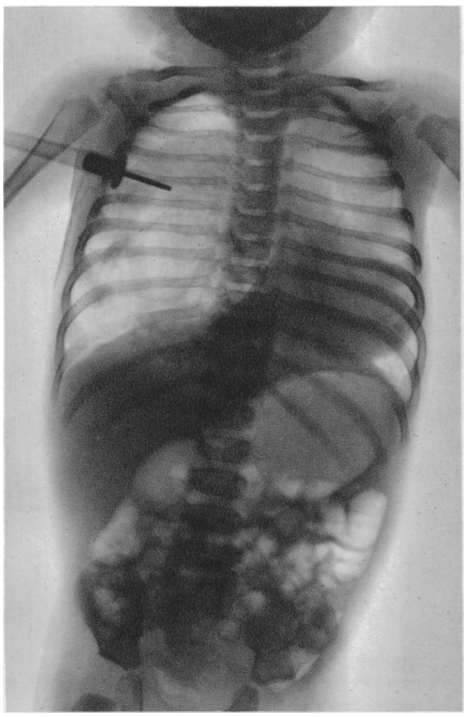


FIG. 2.—Radiograph showing the partially expanded lung and a pneumothorax. September 12, 1936.

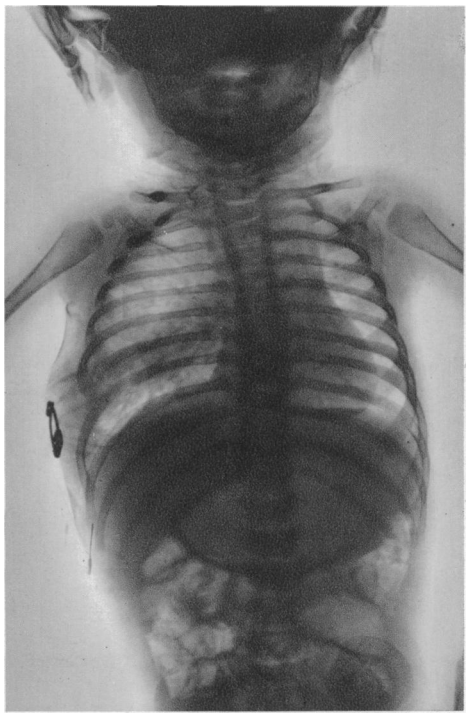


FIG. 3.—Radiograph taken on September 24, 1936.

G. L. A. KONSTAM AND FRANKLIN G. WOOD: TWO CASES OF PICK'S DISEASE

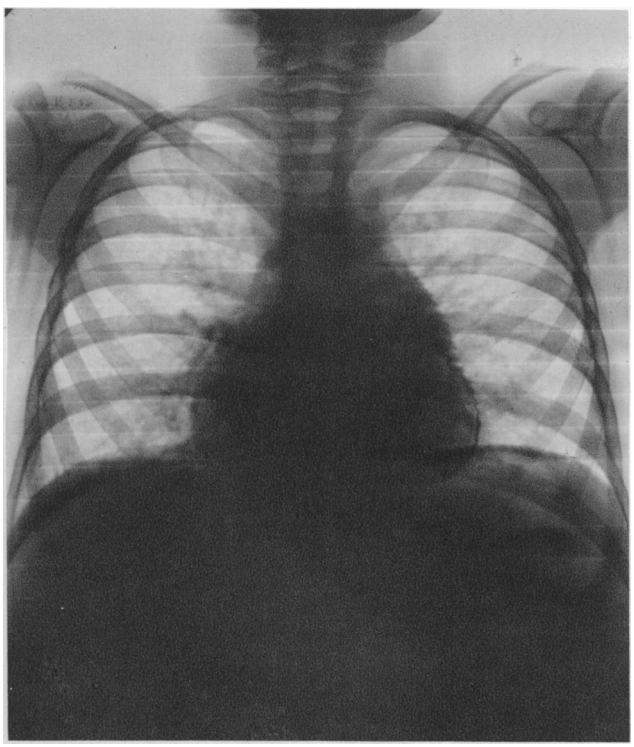
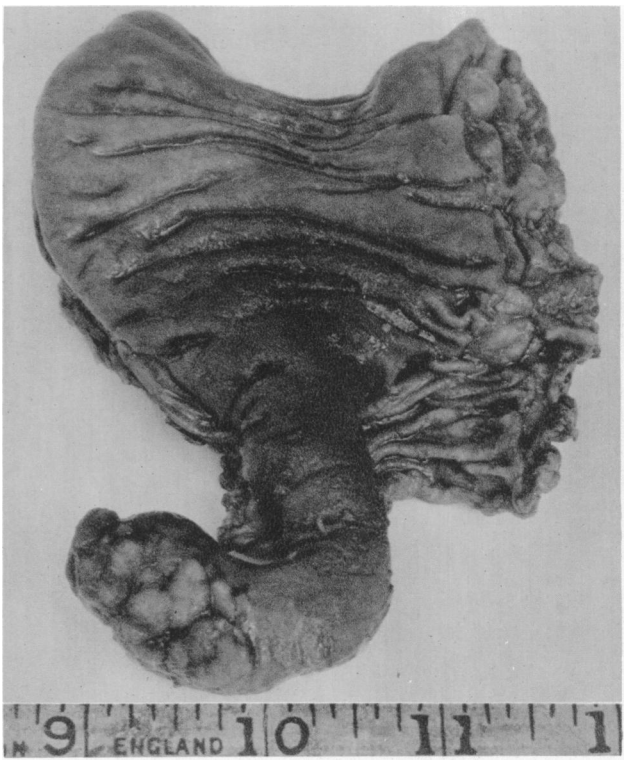


FIG. A.—Kymogram of Case I before operation, showing the deposit of calcium on the lateral and inferior borders of the heart. The pulsations are absent at the apex of the left ventricle, and are minimal at the right border.

MILROY PAUL: ENTERIC INTUSSUSCEPTION DUE TO THE INVAGINATION OF MECKEL'S DIVERTICULUM



Inverted Meckel's diverticulum in lumen of resected gut.