Basal Tuberculosis Simulating Sub-phrenic Abscess

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Because of its insidious nature a subdiaphragmatic abscess may not manifest itself until it has progressed to the stage of causing pulmonary pathology. Pleuro-pulmonary involvement such as effusion, pneumonitis, atelectasis, etc., at the base of the lung on the involved side may be the first changes to call to mind the possibility of sub-phrenic pathology. The following case is of interest because the history, physical findings, and roentgenograms were consistent with the diagnosis of subdiaphragmatic abscess, but subsequently the pathology was proved to be due to tuberculosis localized in the basal segments of the right lower lobe.

J.P., R No. 3279, is a 60-year old white male who has been hospitalized for the past 20 years because of paranoid schizophrenia. Previous to his present illness, he had always been in good health, and numerous physical examinations and chest roentgenograms had been entirely negative. On December 5, 1946 a chest roentgenogram was reported as negative and a review of this film showed no evidence of infiltration or scarring due to an old arrested lesion. On February 4, 1947 he complained of abdominal pain, was distended and appeared pale. Roentgen studies revealed evidence of intestinal obstruction. Laporatomy was performed the following day when a volvulus of the sigmoid was relieved and a colostomy performed.

The postoperative course was unsatisfactory due to a low grade fever with frequent high spikes accompanied by leucocytosis. There was no cough and the patient would not comment on his complaints. A roentgenogram of the chest on February 14, 1947 revealed increased markings of both lung fields probably due to elevation of the diaphragm (Fig. 1). There was a small amount of air under the right leaf of the diaphragm remaining from the previous operation. This demonstrated a smooth diaphragmatic contour. No evidence of infiltration in the lung was observed.

The patient remained chronically ill and penicillin therapy was administered for approximately two months. A film of the chest on April
Figure 1: Roentgenogram of the chest showing air under the right leaf of the diaphragm and demonstrating smooth diaphragmatic contour (2-14-47).—Figure 2: Pleuro-diaphragmatic effusion obscuring underlying parenchymal detail (4-21-47).—Figure 3: Multi-locular fluid levels at the right base with irregular parenchymal infiltration.—Figure 4: Dense pleural thickening at the right base, obscuring parenchymal detail.
21, 1947 revealed a dense pleuro-diaphragmatic effusion extending up to the middle of the chest wall on the right side, obscuring underlying parenchymal detail (Fig. 2). The remainder of the lung fields showed no evidence of abnormality. The possibility of subdiaphragmatic pathology was suggested.

The colostomy was closed on May 13, 1947. On May 29, an abdominal fistula was noted to be draining fecal material. Lipiodol was instilled into the fistulous tract and a communication with the sigmoid colon was demonstrated roentgenographically. In July, 1947 it was noted that the patient had a cough and raised yellow, foul-smelling sputum. Studies at that time revealed no evidence of tubercle bacilli on smear or culture. The patient failed to gain weight and appeared chronically ill, although he was now ambulatory.

Serial roentgenograms of the chest over the next three months revealed evidence of multi-locular fluid levels at the right base with irregular parenchymal infiltrations in the underlying lung field. The remainder of the lung fields still remained clear (Fig. 3). The persistence of the pleuro-pulmonary changes at the right base had prompted the X-ray Department on numerous occasions to suggest the presence of sub-phrenic abscess. On October 1, an exploratory operation was performed. The subdiaphragmatic space on the right was approached posteriorly by removal of the 12th rib. The peritoneum was incised and the right anterior and posterior subhepatic spaces were palpated. Finger dissection was carried superiorly over the lateral right ligament of the liver to the bottom of the diaphragm but no area of suppuration was found.

The postoperative course was uneventful, but the patient remained unimproved. By December 12, 1947 the abdominal fistula had closed. On January 28, 1948 a pleural tap was done, and a smear of the fluid showed tubercle bacilli. This diagnosis was verified by gastric cultures. Pneumoperitoneum was attempted, but was not successful because of massive adhesions. The patient has done moderately well on bed rest and at the present time he has dense pleural thickening at the right base, obscuring parenchymal detail (Fig. 4).

Discussion

Thoracic complications are common in cases of sub-phrenic abscess; Claggett, for example, found them in 65 per cent of his cases. While the clinical findings in this case suggested subdiaphragmatic abscess, the roentgenographic finding of a basal pleuro-diaphragmatic fluid accumulation was compatible with various other infra and supra-diaphragmatic lesions. These include diaphragmatic hernia; ovarian tumor (Meigs Syndrome); hepatic abscess, inflammation or tumor; inflammatory changes of the lung and pleura; pulmonary neoplasms; heart disease; and eventration of the diaphragm. Basal pleural fluid for example, has been described as causing apparent elevation of the diaphragm.

As pointed out by Reisner it is important to distinguish between tuberculous infiltrations of subapical portions of the lower lobes and those involving the basal segments since the latter is
much more uncommon. Tuberculosis should not be forgotten when a puzzling lower lobe lesion is being investigated and repeated laboratory studies should be performed to rule it out.

Reisner has postulated that a high diaphragm or one with restricted movement may cause poor aeration of the lower lobe and that this is a predisposing factor to lower lobe tuberculosis. This may apply in the above case since splinted respiration with limitation of the diaphragmatic excursion is expected following abdominal operations.

SUMMARY

A case of basal tuberculosis simulating subdiaphragmatic abscess is reported and discussed.

RESUMEN

Se presenta y discute un caso de tuberculosis basal que parecía ser un absceso subdiafragmático.

REFERENCES