X-RAY FILM OF THE MONTH

Clinical Information

M.L., a woman of 29 years, delivered her second child in September, 1958. Her menstrual periods became irregular subsequent to January, 1959. On May 15, 1959, she complained of sudden onset of dyspnea associated with pleuritic pain in her left lower chest. Her temperature was 102°F. The following day all symptoms had disappeared but her roentgenogram showed a blurred outline to the left hemidiaphragm, which was elevated 1-2 cm. A small collection of pleural fluid was present in the lateral costophrenic recess (Fig. 1).

On admission to the hospital, at the end of May, she was symptomless and looked well. There was diminished movement, dullness to percussion, decreased vocal resonance and decreased breath sounds over the left lower chest. The heart sounds were normal. The roentgenogram on June 2, 1959 (Fig. 2), showed remarkable enlargement of the cardiac outline to the left and apparent elevation of the left hemidiaphragm which was now smooth and convex upward. A thin line of pleural fluid was still present above the left costophrenic recess, the angle of which was acute. There was no gas shadow in the stomach. On fluoroscopy the “left hemidiaphragm” moved well. The electrocardiogram was normal; the sedimentation rate was 68 mm. in one hour. The tuberculin test was positive.

A roentgenogram in the supine position, made immediately after viewing that shown in Fig. 2, showed restoration of the cardiac outline to normal and a large effusion evenly distributed over the left lung (Fig. 3). Aspiration revealed a cloudy fluid with red blood cells, lymphocytes and a protein content of 5.8 Gm. per cent. Smear and cultures were negative for tubercle bacilli. Uterine curettage showed typical endometrial tuberculosis. She was treated with streptomycin, isoniazid and P.A.S. and the effusion had completely cleared in seven weeks (Fig. 4). Her menstrual periods have returned to normal.

FIGURE 1

FIGURE 2

FIGURE 1: P. A. film (May 16, 1959) showing small effusion at left base.
FIGURE 2: P. A. film (June 2, 1959) showing marked elevation of left “pseudo-diaphragm” with abrupt downward inclination peripherally with apparent cardiac enlargement. Note almost total absence of fluid over lateral costal surface.

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The presence of subpulmonary effusion was suggested by the gradual upward inclination of the elevated pseudo-diaphragmatic contour with sharp drop near the costal margin, smooth outline with normal mobility, and a minute collection of fluid in the lateral gutter. The apparent cardiac enlargement was thought to be due to pericardial effusion but proved to be an intrapleural collection of fluid along the mediastinal surface. Normally, the gas shadow in the stomach lies 1 cm. below the diaphragm and if this distance is greater it may be the key to recognition of subpulmonary effusion. In this case downward displacement of the gastric air bubble was not observed, as the fundus was devoid of gas.

**Conclusion**

Establishing the presence of the paramediastinal fluid was considered important as it precluded possible pericardial tap or angiocardiography. Paramediastinal effusion is rare and the mechanism involved is not fully understood. The localization of fluid below the lung is due to gravity. Medially it may be the result of partial collapse of the medial portion of the lower left lung. The pleural space was free of adhesions as shown by the immediate redistribution of the fluid with change in gravitational force when the patient assumed a supine position.

**REFERENCES**


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