Left-sided Pneumoperitoneum and Right Pneumothorax

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This 22-year-old white Portuguese woman was admitted to the hospital with right-sided chest pain for 12 hours. She was said to have had an abnormal chest roentgenogram ten years ago when she emigrated to Brazil. She was well-nourished and in no acute distress. Her temperature was normal. There were absent breath sounds and a tympanic percussion note over the right thorax. The abdomen was small and flat.

(Editor's note: we missed it a mile!)

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FIGURE 1
Diagnosis: 1. Right diaphragmatic hernia. 2. Spontaneous right pneumothorax with pneumoperitoneum.

Figure 1 shows a right pneumothorax and left pneumoperitoneum. The right lung is collapsed into the upper medial thorax. Sausage-shaped masses are seen in the lower right thorax, below which are several cyst-like shadows. After the gas was absorbed, a barium meal and barium enema revealed many intestinal loops in the right chest, including most of the distal duodenum, small bowel, and colon (Fig 2). Bronchography showed that the middle lobe bronchus and the basal segmental bronchi were missing (Fig 3).

Congenital diaphragmatic hernias of such massive dimensions are infrequent in adult life since they usually cause serious respiratory and circulatory distress in the newborn leading to early death unless promptly repaired. The defect is rare on the right side.

Physical examination usually reveals absent breath sounds, increased resonance to percussion, and occasionally peristaltic sounds over the affected hemithorax. The abdomen is small for obvious reasons. Chest films show air-filled sacculations and fluid levels. The diaphragm is not visible but can sometimes be identified by constriction of the gut and the juxtaposition of the afferent and efferent segments as they pass through the opening. Grid films and barium studies establish the correct diagnosis (arrows, Fig 2). Otherwise, differentiation from complete agenesis of the diaphragm can only be made at operation.

Simultaneous occurrence of pneumothorax and pneumoperitoneum is a valuable sign of abnormal communication between the pleural and peritoneal cavities.

Pulmonary hypoplasia may be associated with this anomaly. Bronchography should be performed in adults before surgical repair. The hypoplastic lung may not become larger after reposition of the abdominal viscera into the peritoneal cavity. Considering this fact, operation was not performed in our patient.

REFERENCES

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