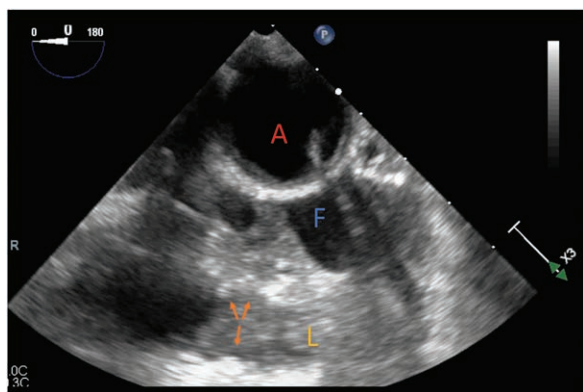


Intraoperative Application of Lung Ultrasound to Diagnose Alveolar Consolidation

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Lung ultrasound is a valuable diagnostic tool in identifying pulmonary pathology. This image demonstrates ultrasonographic evidence of alveolar consolidation and atelectasis in a patient with intraoperative hypoxemia. In this transesophageal echocardiographic image, the descending thoracic aorta (*A*) appears at the top of the scanned sector and the left chest cavity beyond it. Within the chest cavity, an anechoic pleural effusion (*F*) is present, and the lung (*L*) is noted to have a liver tissue-like appearance with presence of air bronchograms (*arrows*). Two different types of air bronchograms, dynamic and static, are seen in the video (Supplemental Digital Content, <http://links.lww.com/ALN/B947>). Dynamic air-bronchograms are highly specific ultrasonographic signs of pneumonia as the cause of consolidation.^{1,2} On ultrasound imaging, they are seen as hyperechoic opacities that move with the respiratory cycle. These hyperechoic opacities are generated as a result of higher acoustic reflectance of the aerated bronchi compared with the surrounding consolidated lung. Lung hepatization is also seen in the image as the collapsed alveoli assume tissue-like density resembling liver. The movement of air

bronchograms with respiration distinguishes nonretractable consolidation from resorptive atelectasis.¹ As resorptive atelectasis occurs as a result of airway obstruction, on ultrasound evaluation the trapped, isolated air results in generation of static air bronchograms (Supplemental Digital Content, <http://links.lww.com/ALN/B947>).

Lung ultrasound provides anesthesiologists with a powerful adjunct to physical examination in reaching prompt diagnosis and instituting therapy when faced with interoperative pulmonary complications. Rapid availability, lack of exposure of the patient to radiation, and portability make lung ultrasound an attractive alternative to intraoperative plain film chest radiography.³

Competing Interests

The authors declare no competing interests.

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