Extensive Fluid Extravasation after Arthroscopic Shoulder Surgery

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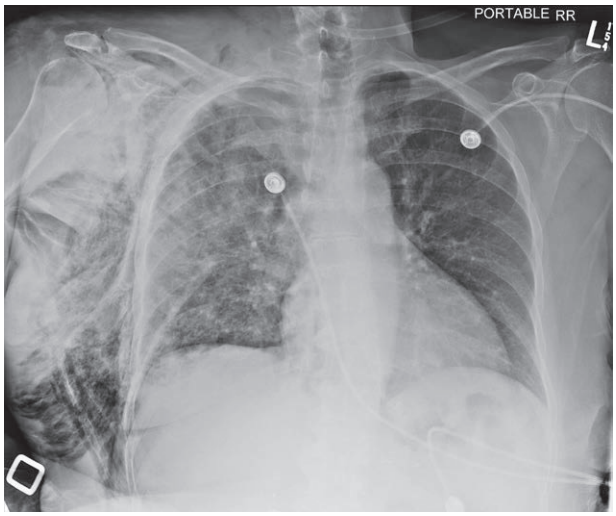

A 64-yr-old woman underwent an arthroscopic rotator cuff repair under general anesthesia plus brachial plexus block. On emergence, she complained of right-sided chest pain and dyspnea, with mild hypoxemia requiring supplemental oxygen. Chest x-ray film (fig.) ruled out pneumothorax and confirmed the presence of extensive air and fluid in the soft tissues of the right shoulder, chest, and lower neck. The image showed no hemidiaphragmatic elevation, pulmonary edema, pleural effusion, or atelectasis. A thoracic erector spinae block was performed, which relieved the patient's chest pain and dyspnea.

The differential diagnosis of dyspnea after arthroscopic shoulder surgery and interscalene brachial plexus block includes hemidiaphragmatic paresis and pneumothorax, and other etiologies associated with general anesthesia if they apply. Fluid extravasation into the shoulder and chest is common and can cause chest pain and tightness with subjective respiratory distress.[1] Actual airway compromise may result if this extends into the neck. Subcutaneous emphysema is a rare complication attributed to air entrainment during surgical irrigation and can cause pneumothorax. While a chest x-ray film is essential to guide diagnosis and management, ultrasound can also be used to identify intramuscular fluid, hemidiaphragmatic paresis, and pneumothorax,[2] as long as subcutaneous air does not obstruct visualization. In the accompanying video (Supplemental Digital Content 1, http://links.lww.com/ALN/C671), an ultrasound was used to diagnose fluid collections in the chest wall after shoulder arthroscopy, which appear as black hypoechoic bands within the pectoralis muscles of the chest wall. The video also demonstrates an approach to a thoracic erector spinae block that may alleviate pain and chest tightness by blocking the intercostal nerves and possibly the sympathetic chain.[3]

Competing Interests

The authors declare no competing interests.

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