Video-Assisted Thoracoscopic Removal of a Mysterious Foreign Body Causing Pneumothorax

Pnömotoraks Neden Olan Gizemli Yabancı Cismin Video-Yardımlı Torakoskopik Cerrahi ile Çıkarılması

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Abstract

The removal of foreign bodies from the pleural cavity via video-assisted thoracoscopic surgery (VATS) has seldom been reported in the literature. This is a description of the case of a 31-year-old female patient who presented with secondary pneumothorax due to a foreign body. The patient did not have any information about the foreign body. The metallic object was successfully removed with VATS, and it was discovered that the object was a broken injection needle. This inexplicable circumstance issue was referred to the legal department of the hospital. Videothoracoscopic removal is the safest procedure for intrapleural foreign objects.

Key words: Foreign body, needle, pneumothorax, video-assisted thoracic surgery (VATS).

Removal of foreign bodies from the pleural cavity using VATS has seldom been reported in the literature (1,2). Thoracic surgeons mostly use VATS or thoracotomy under general anesthesia for foreign body removal from the chest wall or the pleural cavity (1-4). However, there is no consensus with regard to treatment (1). Nonetheless, foreign bodies in the pleural cavity should be removed when possible (1,2). Otherwise, pneumothorax or empyema may develop. In this report, the case of a needle found in the pleural cavity in which the patient had no history of such foreign body penetration is described.

CASE

A 31-year-old woman with secondary pneumothorax was referred to our department. There was no significant disorder in her history. Her laboratory tests were normal. Chest radiography showed a
large left pneumothorax and a foreign body in the left upper hemithorax (Figure 1a). The patient had no history of foreign body aspiration. Physical examination did not reveal any entrance site through the skin. No subcutaneous erythema was detected. A chest tube was inserted immediately to treat the pneumothorax and the radiograph was repeated some hours later. When this chest radiography was carefully examined, other foreign bodies were also observed in the patient’s abdomen (Figure 1b). Computerized tomography demonstrated metallic objects (2 needles) in the liver and a needle in the left infraclavicular area in the pleural cavity extending from the chest wall (Figure 2).

The patient agreed to undergo video-assisted thoracoscopic surgery (VATS) to remove the pleural cavity foreign body. VATS provided clear visualization of the needle penetrating the parietal pleura (Figure 3a). The needle was removed using endoscopic grasping forceps, and it was determined to be a broken injection needle (Figure 3b). Chest tube drainage was maintained until the second day after the operation. There was no evidence of pneumothorax on a follow-up chest radiograph. A general surgery consultation was conducted regarding the foreign bodies in the abdomen. No surgery was planned for the needles in the liver. No psychiatric illness was detected following a psychiatric consultation. The removed needle was delivered to the legal department of the hospital. The patient was discharged on the third day after the operation.

**DISCUSSION**

An intrapleural foreign body causing pneumothorax is exceedingly rare and few cases have been documented in the literature. Previous studies indicate that the etiology is most commonly secondary to iatrogenic injury, or an intentional traumatic or accidental event (1). Brodsky et al. (5) reported the first thoracoscopic removal of foreign bodies from the pleural space with single lung ventilation in 1981. In recent years, thoracic surgeons have begun to use VATS and better, technically advanced videoendoscopy instruments to remove foreign bodies in the pleural space with (3,6,7).
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CONCLUSION

It is rare for a needle to pass into the pleural space. Complications, such as pneumothorax, empyema, or vascular injury, should be considered and should be eliminated when possible (8). VATS removal is the safest procedure for intrapleural foreign objects or those embedded in the chest wall.

CONFLICTS OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS


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REFERENCES
