Late Appearance of Pneumothorax after Subclavian Catheterization for Hemodialysis

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Dear Sir,

Subclavian cannulation for hemodialysis was first reported by Erben et al. [1] in 1969 and is now being widely used all over the world. Pneumothorax is a well-recognized complication of subclavian vein catheterization. Chest radiography on expiration is advised soon after the procedure. Patients at particular risk for pneumothorax are those receiving positive-pressure respiratory support and those with air trapping. An unusual case of late pneumothorax is reported herein.

A 62-year-old man was admitted to our hospital because of deterioration on renal function of renovascular origin. A hemodialysis catheter was placed into the right subclavian vein without remarkable incidents. X-ray examination after the procedure showed that the catheter was properly placed. No abnormalities were noted in the pleural space. Forty-eight hours later, a splenorenal shunt was performed. Postoperatively, thoracic examination disclosed diminished breath sounds and hyperresonance to percussion of the right hemithorax. Chest X-ray showed a massive right pneumothorax. An apical chest drain was inserted, and complete recovery was uneventful.

Reviewing the literature, we could find only 3 case reports describing late pneumothorax after subclavian vein catheter insertion [2, 3]. In the present case, the

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presumed mechanism for the late appearance of a pneumothorax is a slow air leak from a pleural tear that could not be detected soon; 48 h after subclavian venipuncture a progressive pneumothorax developed when the patient required positive-pressure ventilation for surgery. Late pneumothorax should be considered in a patient with a subclavian vein catheter in whom respiratory difficulty develops, despite negative chest X-ray findings immediately after the surgical procedure. In patients with a subclavian vein catheter undergoing elective intubation and positive-pressure breathing, we recommend that repeated chest radiography should be considered to exclude the late development of a pneumothorax.

References

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