

Diagnosis: Air in pulmonary artery

Tanı: Pulmoner arterde hava

Examination of thoracic CT cross sections with IV contrast revealed diffuse air pockets in the right subclavian vein and mediastinal region (Figure 1a, b). Examination of coronal cross sections for determination of the air localization revealed free air in the pulmonary artery and its major branches (Figure 2). It was considered that the IV infusion set contained air and had caused air embolism while administering IV contrast material through 18 G intravenous line located in the right forearm region. A repeat check of vital signs and physical examination were also normal. The patient was monitored and given 100% oxygen. An elective endoscopic study was recommended for the foreign material. The patient was discharged after a 24-hour monitorization period. She had no complaints or complications at discharge.

Inadvertent air injection is a recognized complication of contrast-enhanced CT examination. It occurs in 11% of the examinations (1). It has been reported that inadvertent injection of approximately 100 cc of air may cause death (2). The major morbidity of air injection is circulatory failure as a result of air entrapment in the right ventricular outflow tract. Mild-to-moderate air emboli usually require no intervention but close monitoring. As for severe cases, previous reports have suggested placing the patient in the left lateral decubitus and Trendelenburg position. This position minimizes air entrapment in the right ventricular outflow tract and facilitates air capture in the right ventricular apex. This position also reduces the risk of air emboli in the pulmonary artery. Inspiring 100% oxygen may be of use in facilitating absorption of air trapped within the vascular system (3).

Unexpected appearances may be observed in contrast-enhanced CTs as a result of embolism of air found in infusion sets. Emergency medicine physicians should remember this possibility when interpreting CTs and take measures to prevent it.

References

1. Groell R, Schaffler GJ, Rienmueller R, Kern R. Vascular air embolism: location, frequency, and cause on electron-beam CT studies of the chest. *Radiology* 1997; 202: 459-62.

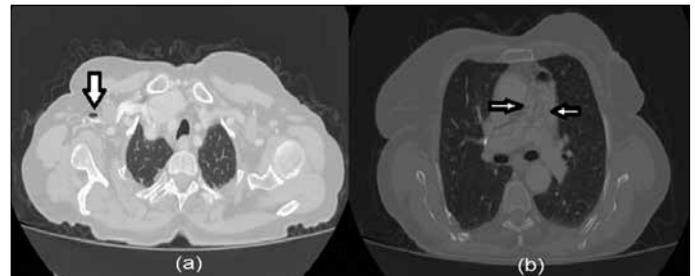


Figure 1. Diffuse air pockets in the right subclavian vein (a) and mediastinal region (b)



Figure 2. Pockets of free air in the pulmonary artery and its major branches

2. Palmon SC, Moore LE, Lundberg J, Toung T. Venous air embolism: a review. *J Clin Anesth* 1997; 9: 251-7. [\[CrossRef\]](#)
3. Pham KL, Cohen AJ. Iatrogenic venous air embolism during contrast enhanced computed tomography: a report of two cases. *Emerg Radiol* 2003; 10: 147-51. [\[CrossRef\]](#)