Iatrogenic venous air embolism from central femoral vein catheterisation

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DESCRIPTION

A woman in her late 40s was brought to the emergency room with abdominal pain and was found to be septic and in hypoxemic respiratory failure. As part of the initial resuscitation a right-sided femoral catheter was placed by the emergency room physician and the patient moved to the intensive care unit. A CT scan of the chest, abdomen and pelvis obtained for initial evaluation revealed air within the distal inferior vena cava (IVC) likely related to placement of the right inguinal catheter (figures 1 and 2). Also noted was a small amount of air in the left external iliac vein, right common iliac vein and small amount of soft tissue emphysema was seen within the right ventricular wall. Patient was immediately placed into left lateral decubitus position (known as the Durant's maneuver) and kept on 100% oxygen for 48 h. Repeat imaging after 48 h showed resolved gas in the IVC and at other sites.

Figure 1 Contrast-enhanced CT of the abdomen showing air in the distal inferior vena cava (white arrow).

Figure 2 Contrast-enhanced CT of the abdomen showing central venous catheter tip within the right external iliac vein (thick arrow) as well as air in the left external iliac vein (thin arrow).

Venous air embolism (VAE) is an uncommon, unrecognised but potentially catastrophic event that occurs as a consequence of entry of air into the vasculature. It is commonly related to iatrogenic causes including central venous catheterisations.¹ Once encountered immediate management should be initiated with an aim to avoid air trapping and decrease the size of air embolus. If left untreated the mortality and morbidity can be high. This case serves as an important reminder to physicians obtaining central venous access to take appropriate precautions in order to reduce the potential for VAE.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCE

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To cite: Jalota L, Aryal MR, Jain S. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-008965

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