



Images In Medicine

Serious Mechanical Complication After Subclavian Vein Catheterization

Gustavo Gabino Miranda, MD

A 75-year-old diabetic woman underwent exploratory laparotomy because of an intrauterine abscess complicated by septic shock. Prior to surgery, several unsuccessful attempts to insert a right subclavian central line were performed. Once in the Intensive Care Unit, the patient became hypotensive, tachycardic and her hematocrit level decreased from 36 to 29%. There was no evidence of external bleeding at the time of evaluation. A chest X-ray performed 8 hours after central line placement showed a large opacity in the right upper and middle lung segments highly suggestive of an extrathoracic expanding hematoma. (Panel A arrow)

A CT scan of the chest revealed collapse of the right pulmonary upper lobe, partial occlusion of the right upper bronchi, and total occlusion of the right middle bronchi. (Panel B arrow)

There are three main types of complications related to central line insertions, namely infectious, mechanical and thrombotic. Among mechanical complications, arterial puncture and hematoma are the most common and are more likely to develop if using the femoral rather than the subclavian approach; however, the rate of serious mechanical complication is similar between them. Serious mechanical complication (tensional pneumothorax or hemorrhage requiring blood transfusion) is a life-threatening condition related to both subclavian and internal jugular vein catheterizations. The hematoma did not further increase in size, and the patient required 3 packed red blood cells units to stabilize her hematocrit level.

REFERENCES

1. McGee DC, Gould MK. Preventing complications of central venous catheterizations. *NEJM* 2003;348:1123-33.
2. Merrer J, De Jonghe B, et al. Complications of femoral and subclavian venous catheterization in critically ill patients. *JAMA* 2001; 286:700-7.

Gustavo Gabino Miranda, MD, is a first-year resident, Department of Internal Medicine, Boston University School of Medicine – Roger Williams Medical Center.

Disclosure of Financial Interests

The author has no financial interests to disclose.

CORRESPONDENCE

Gustavo Gabino Miranda, MD
Department of Internal Medicine
Roger Williams Medical Center
825 Chalkstone Ave
Providence, RI, 02908
e-mail: gusgabino@hotmail.com

