



Routine chest radiograph after this common procedure is an unnecessary use of resources and may delay resuscitation of critically ill patients” Hourmozdi et al (2016).

Abstract:

OBJECTIVES: Central venous catheter placement is a common procedure performed on critically ill patients. Routine postprocedure chest radiographs are considered standard practice. We hypothesize that the rate of clinically relevant complications detected on chest radiographs following ultrasound-guided right internal jugular vein catheterization is exceedingly low.

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DESIGN: Retrospective chart review.

SETTING: Adult ICUs, emergency departments, and general practice units at an academic tertiary care hospital system.

PATIENTS: All 1,322 ultrasound-guided right internal jugular vein central venous catheter attempts at an academic tertiary care hospital system over a 1-year period.



INTERVENTIONS: None.

MEASUREMENTS AND MAIN RESULTS: Data from standardized procedure notes and postprocedure chest radiographs were extracted and individually reviewed to verify the presence of pneumothorax or misplacement, and any intervention performed for either complication. The overall success rate of ultrasound-guided right internal jugular vein central venous catheter placement was 96.9% with an average of 1.3 attempts. There was only one pneumothorax (0.1% [95% CI, 0-0.4%]), and the rate of catheter misplacement requiring repositioning or replacement was 1.0% (95% CI, 0.6-1.7%). There were no arterial placements found on chest radiographs. Multivariate regression analysis showed no correlation between high-risk patient characteristics and composite complication rate.

CONCLUSIONS: In a large teaching hospital system, the overall rate of clinically relevant complications detected on chest radiographs following ultrasound-guided right internal jugular vein catheterization is exceedingly low. Routine chest radiograph after this common procedure is an unnecessary use of resources and may delay resuscitation of critically ill patients.

Reference:

Hourmozdi, J.J., Markin, A., Johnson, B., Fleming, P.R. and Miller, J.B. (2016) Routine Chest Radiography Is Not Necessary After Ultrasound-Guided Right Internal Jugular Vein Catheterization. Critical Care Medicine. March 31st. .

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