To assess whether ultrasonographic examination compared to chest radiography (CXR) is effective for evaluating complications after central venous catheterization" Kim et al (2018).

Abstract:

OBJECTIVE: To assess whether ultrasonographic examination compared to chest radiography (CXR) is effective for evaluating complications after central venous catheterization.

METHODS: We performed a prospective observational study. Immediately after central venous catheter insertion, we asked the radiologic department to perform a portable CXR scan. A junior and senior medical resident each performed ultrasonographic evaluation of the position of the catheter tip and complications such as pneumothorax and pleural effusion (hemothorax). We estimated the time required for ultrasound (US) and CXR.

RESULTS: Compared to CXR, US could equivalently identify the catheter tip in the internal jugular or subclavian veins (P=1.000). Compared with CXR, US examinations conducted by junior residents could equivalently evaluate pneumothorax (P=1.000), while US examinations conducted by senior residents could also equivalently evaluate pneumothorax (P=0.557) and pleural effusion (P=0.337). The required time for US was shorter than that for CXR (P<0.001).

CONCLUSION: Compared to CXR, US could equivalently and more quickly identify complications such as pneumothorax or pleural effusion.

Full Text

Reference:

Kim, Y.I., Ryu, J.H., Min, M.K., Park, M.R., Park, S.C., Yeom, S.R., Han, S.K., Park, S.W. and Lee, S.H. (2018) Usefulness of ultrasonography for the evaluation of catheter misplacement and complications after central venous catheterization. Clinical and Experimental

Emergency Medicine. 5(2), p.71-75.

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