No association between ultrasound-guided insertion of central venous catheters and bloodstream infection


Association between ultrasound-guided insertion of central venous catheters and CLABSI?
http://ctt.ec/r6eFk+ @ivteam #ivteam

Click To Tweet

Abstract:

BACKGROUND: Ultrasound guidance for the insertion of central venous catheters (CVCs) reduces mechanical complications and shortens insertion time, but its effect on CVC-associated bloodstream infection (CABI) remains controversial.

AIM: To test the effect of ultrasound-guided CVC insertion on CABI in a hospital-wide setting.

METHODS: A four-year prospective cohort study was conducted at a university-affiliated, tertiary care centre. All patients receiving a non-tunneled CVC, inserted by an anaesthetist, were enrolled. Catheter surveillance was performed by trained infection control nurses and checked by an infection control doctor. The primary outcome was CABI as defined by the US Centers for Disease Control and Prevention. The secondary outcome was all-cause mortality up to 28 days after CVC removal.
FINDINGS: In total, 2312 patients with 2483 CVCs were included and analysed. Ultrasound guidance was used for 844 CVC insertions (34.0%), with a significant increasing trend over the study period. Forty-seven CABSIs were identified, representing an overall incidence of 2.1 episodes per 1000 catheter-days. No association was detected between ultrasound guidance and CABS (hazard ratio 0.69, 95% CI 0.36-1.30; P = 0.252). All-cause mortality was 11.0% (253/2312), with no significant trend and no association with ultrasound guidance.

CONCLUSION: Ultrasound guidance had no effect on CABS or mortality. In a hospital-wide setting with baseline CABS rates at the standard level currently found in high-income countries, the use of ultrasound has no additional benefit for the prevention of CABS.

Other intravenous and vascular access resources that may be of interest (External links - IVTEAM has no responsibility for content).