Our primary objective compared subclavian versus femoral CVC complications during initial trauma resuscitations" Choron et al (2015).

Reference:

Choron, R.L., Wang, A., Van Orden, K., Capano-Wehrle, L. and Seamon, M.J. (2015) Emergency Central Venous Catheterization during Trauma Resuscitation: A Safety Analysis by Site. The American Surgeon. 81(5), p.527-31.

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Abstract:

Central venous catheterization (CVC) is often necessary during initial trauma resuscitations, but may cause complications including catheter-related blood stream infection (CRBSI), deep venous thrombosis (DVT), pulmonary emboli (PE), arterial injury, or pneumothoraces. Our primary objective compared subclavian versus femoral CVC complications during initial trauma resuscitations. A retrospective review (2010-2011) at an urban, Level-I Trauma Center reviewed CVCs during initial trauma resuscitations. Demographics, clinical characteristics, and complications including: CRBSIs, DVTs, arterial injuries, pneumothoraces, and PEs were analyzed. Fisher's exact test and Student's t test were used; $P \leq 0.05$ was considered statistically significant. Overall, 504 CVCs were placed (subclavian, n = 259; femoral, n = 245). No difference in age (47 ± 22 vs 45 ± 23 years) or body mass index (28 ± 6 vs 29 ± 16 kg/m(2)) was detected ($P > 0.05$) in subclavian vs femoral CVC, but subclavian CVCs had more blunt injuries (81% vs 69%), greater systolic blood pressure (95 ± 55 vs 83 ± 43 mmHg), greater Glasgow Coma Scale (10 ± 5 vs 9 ± 5), and less introducers (49% vs 73%) than femoral CVCs (all $P < 0.05$). Catheter related arterial injuries, PEs, and CRBSIs were similar in subclavian and femoral groups (3% vs 2%, 0% vs 1%, and 3% vs 3%; all $P > 0.05$). Catheter-related DVTs occurred in 2 per cent of subclavian and 9 per cent of femoral CVCs ($P < 0.001$). There was a 3 per cent occurrence of pneumothorax in the subclavian CVC population. In conclusion, both subclavian and femoral CVCs caused significant complications. Subclavian catheter-related pneumothoraces occurred more commonly and femoral CRBSIs less commonly than expected compared with prior literature in nonemergent scenarios. This suggests that femoral CVC may be safer than subclavian CVC during initial trauma resuscitations.

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