

CVC placement increases ischemic stroke risk, particularly in those aged  $\leq 35$  years; this trend warrants further investigation” Liao et al (2019).

Abstract:

**BACKGROUND:** Central venous catheter (CVC) placement is a common procedure used for the treatment of critically ill patients. However, ischemic stroke is a complication after CVC placement.

**AIM:** This study investigated the association between CVC placement and ischemic stroke risk in an Asian population.

**DESIGN:** Population-based retrospective study.

**METHODS:** We enrolled 37,623 patients who ever-received CVC placement over 2000-2010 and propensity score-matched individuals without CVC placement as the comparison cohort from the Taiwan National Health Insurance Research Database. We determined the cumulative incidence rates and adjusted hazard ratios (aHRs) for ischemic stroke.

**RESULTS:** We finally identified and enrolled 34,164 propensity score-matched pairs of individuals. Compared with the comparison group, CVC placement increased the average annual ischemic stroke incidence (19.5 vs. 11.6 per 10,000 person-years; crude HR = 1.28, 95% confidence interval = 1.21-1.35; adjusted subhazard ratio = 1.4, 95% CI = 1.33-1.47;  $p < 0.001$ ). In addition, compared with those aged  $> 35$  years, stroke risk was significantly higher in  $< 35$ -year-old patients with CVC placement (aSHR = 14.3, 95% CI = 6.11-33.4;  $p < 0.001$ ). After  $< 1$ -year follow-up, the ischemic stroke incidence rate in the CVC placement group was approximately 3.25-fold higher than that in the comparison group (aHR = 3.25, 95% CI = 2.9-3.63;  $p < 0.0001$ ). **CONCLUSION:** CVC placement increases ischemic stroke risk, particularly in those aged  $\leq 35$  years; this trend warrants further investigation.

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Reference:

Liao, P.H., Lai, C.Y., Wu, C.H., Su, Y.C., Wei, C.W. and Kao, C.H. (2019) Central venous catheter use increases ischemic stroke risk: A nationwide population-based study. QJM. June 21st. doi: 10.1093/qjmed/hcz152. .