

It remains unclear whether the use of central venous catheters (CVC) improves a patient's clinical outcome after elective intracranial supratentorial procedures" Löser et al (2019).

Abstract:

BACKGROUND: It remains unclear whether the use of central venous catheters (CVC) improves a patient's clinical outcome after elective intracranial supratentorial procedures.

METHODS: This two-armed, single-center retrospective study sought to compare patients undergoing elective intracranial surgery with and without CVCs. Standard anaesthesia procedures were modified during the study period resulting in the termination of obligatory CVC instrumentation for supratentorial procedures. Peri-operative adverse events (AEs) were evaluated as primary endpoint.

RESULTS: The data of 621 patients in total was analysed in this study (301 with and 320 without CVC). Patient characteristics and surgical procedures were comparable between both study groups. A total of 132 peri-operative AEs (81 in the group with CVC vs. 51 in the group without CVC) regarding neurological, neurosurgical, cardiovascular events and death were observed. CVC patients suffer from AEs almost twice as often as non CVC patients (ORadjusted = 1.98; 95%CI[1.28-3.06]; p = 0.002). Complications related to catheter placement (pneumothorax and arterial malpuncture) were observed in 1.0% of the cases. The ICU treatment period in patients with CVC was 22 (19;24) vs. 21 (19;24) hours (p = 0.413). The duration of hospital stay was also similar between groups (9 (7;13) vs. 8 (7;11) days, p = 0.210). The total time of ventilation (350 (300;440) vs. 335 (281;405) min, p = 0.003) and induction time (40 (35;50) vs. 30 (25;35) min, p<0.001) was found to be prolonged significantly in the group with CVCs. There were no differences found in post-operative inflammatory markers as well as antibiotic treatment. **CONCLUSION:** The data of our retrospective study suggests that patients undergoing elective neurosurgical procedures with CVCs do not demonstrate any additional benefits in comparison to patients without a CVC.

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Löser, B., Recio Ariza, O., März, A., Löser, A., Grensemann, J., Petzoldt, M., Reuter, D.A., Weber, F., Glass, Ä. and Haas, S.A. (2019) Retrospective analysis of central venous catheters in elective intracranial surgery - Is there any benefit? PLoS One. 14(12), p.e0226641. doi: 10.1371/journal.pone.0226641. eCollection 2019.