

The purpose of this retrospective study is to identify the unnecessary application of central venous catheter placement and determine the factors associated with the unnecessary application of central venous catheter placement” Uemura et al (2018).

Abstract:

BACKGROUND AND OBJECTIVES: Perioperative physicians occasionally encounter situations where central venous catheters placed preoperatively turn out to be unnecessary. The purpose of this retrospective study is to identify the unnecessary application of central venous catheter placement and determine the factors associated with the unnecessary application of central venous catheter placement.

METHODS: Using data from institutional perioperative central venous catheter surveillance, we analysed data from 1,141 patients who underwent central venous catheter placement. We reviewed the central venous catheter registry and medical charts and allocated registered patients into those with the proper or with unnecessary application of central venous catheter according to standard indications. Multivariate analysis was used to identify factors associated with the unnecessary application of central venous catheter placement.

RESULTS: In 107 patients, representing 9.38% of the overall population, we identified the unnecessary application of central venous catheter placement. Multivariate analysis identified emergencies at night or on holidays (odds ratio 2.109, 95% confidence interval [95% CI] 1.021-4.359), low surgical risk (OR=1.729, 95% CI 1.038-2.881), short duration of anesthesia (OR=0.961/10min increase, 95% CI 0.945-0.979), and postoperative care outside of the intensive care unit (OR=2.197, 95% CI 1.402-3.441) all to be independently associated with the unnecessary application of catheterization. Complications related to central venous catheter placement when the procedure consequently turned out to be unnecessary were frequently observed (9/107) compared with when the procedure was necessary (40/1034) ($p=0.032$, OR=2.282, 95% CI 1.076-4.842). However, the subsequent multivariate logistic model did not hold this significant difference ($p=0.0536$, OR=2.115, 95% CI 0.988-4.526).

CONCLUSIONS: More careful consideration for the application of central venous catheter is

required in cases of emergency surgery at night or on holidays, during low risk surgery, with a short duration of anesthesia, or in cases that do not require postoperative intensive care.

Reference:

Uemura, K., Inoue, S. and Kawaguchi, M. (2018) The unnecessary application of central venous catheterization in surgical patients. *Revista Brasileira de Anestesiologia*. April 6th. . .

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