

The purpose of this study is to determine the incidence of and potential risk factors associated with early mechanical complications of central venous catheterisation in an era where real-time ultrasound guidance has become clinical practice” Adrian et al (2019).

Abstract:

INTRODUCTION: Central venous catheterisation is a common procedure in intensive care therapy and the use of central venous catheters is essential for treatment of many medical disorders. Although rare, central venous catheterisation is associated with mechanical complications that can be life-threatening if untreated. Real-time ultrasound guidance reduces the incidence of mechanical complications when compared with the anatomic landmark method. The purpose of this study is to determine the incidence of and potential risk factors associated with early mechanical complications of central venous catheterisation in an era where real-time ultrasound guidance has become clinical practice.

METHODS AND ANALYSIS: This is a prospective, controlled, multicentre, observational study. All participating hospitals follow the same clinical guidelines for central venous catheterisation. Each central venous catheter insertion will be recorded in the common electronic chart system according to a recently revised template. An automated script-based search will identify all recorded central venous catheter insertion templates during the study period and relevant variables will be extracted. Outcome measures and independent variables are pre-defined in this study protocol. Multivariable and univariable logistic regression analysis will be used to determine associations and risk factors of mechanical complications.

ETHICS AND DISSEMINATION: The Regional Ethical Review Board in Lund, Sweden has approved this study. The results will be submitted for publication in peer-reviewed medical journals and presented at national and international scientific meetings.

TRIAL REGISTRATION NUMBER: NCT03782324.

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Reference:

Adrian, M., Borgquist, O., Bentzer, P., Åkeson, J., Spångfors, M., Wrigstad, J., Holmström, A., Linnér, R. and Kander, T. (2019) Research protocol for mechanical complications after central venous catheterisation: a prospective controlled multicentre observational study to determine incidence and risk factors of mechanical complications within 24 hours after cannulation. *BMJ Open*. 9(10), p.e029301. doi: 10.1136/bmjopen-2019-029301.