

The aim of our study was to determine the spectrum of mechanical complications in a high-volume trauma centre in a developing world setting where ultrasound guidance was not available” Odendaal et al (2017).

Abstract:

INTRODUCTION: Central venous catheterisation (CVC) is a commonly performed procedure in a wide variety of hospital settings and is associated with appreciable morbidity. There is a paucity of literature focusing on mechanical complications specifically in the trauma setting. The aim of our study was to determine the spectrum of mechanical complications in a high-volume trauma centre in a developing world setting where ultrasound guidance was not available.

METHODS: A retrospective study was performed analysing data from a four-year period at the Pietermaritzburg Metropolitan Trauma Service in South Africa.

ReTweet if useful... Mechanical complications of central venous catheterisation in a developing world setting <https://ctt.ec/6y3au+> @ivteam #ivteam

Click To Tweet

RESULTS: A total of 178 mechanical complications (18%) occurred in 1,015 patients undergoing CVC: 117 pneumothoraces, 25 malpositions, 18 catheter dislodgements, 14 arterial cannulations, one air embolism, one chylothorax, one pleural cannulation and one retained guide-wire. The internal jugular vein (IJV) approach was associated with a higher overall complication rate than the subclavian vein (SCV) approach (24% vs. 13%, $p < 0.001$). Pneumothorax (73% vs. 57%, $p < 0.001$) and arterial cannulation (15% vs. 0%, $p < 0.001$) were more common with the IJV. Catheter dislodgement (21% vs. 0%, $p < 0.001$) was more common with the SCV. Junior doctors performed 66% of the CVCs and this was associated with a significantly higher complication rate (20% vs. 12%, $p < 0.001$).

CONCLUSIONS: CVC carries appreciable morbidity, with pneumothorax being the most frequent mechanical complication. The SCV was the most commonly used approach at our institution. The majority of CVCs were performed by junior doctors and this was associated with a considerable complication rate.

Reference:

Odendaal, J., Kong, V.Y., Sartorius, B., Liu, T.Y., Liu, Y.Y. and Clarke, D.L. (2017)
Mechanical complications of central venous catheterisation in trauma patients. *Annals of
the Royal College of Surgeons of England*. 99(5), p.390-393.

doi: 10.1308/rcsann.2017.0022.

Thank you to our partners for supporting IVTEAM