

Background:

Central venous catheters are common lifesaving procedures conducted in wards and ICU's. Mechanical complications due to central line insertion increase morbidity and are affected by many factors. We studied the prevalence and risk factors for mechanical complications due to central venous catheter insertion.

Methods:

We conducted an observational study of all central line insertions to patients admitted to medical wards and ICU's. All patients included in the study were assessed for risk factors associated with mechanical complications and the prevalence of complications was also studied. Multiple logistic regression analysis was performed to identify risk factors associated with mechanical complications.

Results:

The study included a total of 160 events during a 1-year study period. The primary event of mechanical complications occurred in 57 patients with a prevalence of 35.6%. The most common complications were catheter malposition (33.8%), local bleeding (19.4%) and hematoma (11.9%). However, none of these complications were life-threatening and did not require any active intervention. Analysis of risk factors revealed that adequate

positioning ($p= 0.014$) and more than 5 attempted venous cannulations ($p= 0.0007$) were associated with adverse outcomes.

Conclusions:

In this analysis of patients admitted to medical wards and ICU's we had found that the prevalence of mechanical complications was 35.6% with more than a majority of them were nonlife threatening. We had also identified that inadequate patient positioning and multiple attempts at venous cannulation were associated with a higher prevalence of complications.