To describe all post-insertion complications involving most used intravascular access, and to determine whether the use of a new-generation transparent dressing (3M™ IV Advanced) might reduce their number and impact on ICU patient outcomes” Günther et al (2016).

Abstract:

PURPOSE: To describe all post-insertion complications involving most used intravascular access, and to determine whether the use of a new-generation transparent dressing (3M™ IV Advanced) might reduce their number and impact on ICU patient outcomes.

METHODS: Patients older than 18, with an expected length of stay ≥48 h and requiring at least one central venous catheter (CVC), arterial catheter (AC), haemodialysis catheter (HDC), pulmonary arterial catheters (PAC) or peripheral venous catheter (PVC) were randomized into two groups: a new-generation transparent dressing, or the hospital’s classical transparent dressing, and were followed daily for any infectious and non-infectious complications. Complications were graduated for severity by an independent international multicentre multidisciplinary panel of practitioners using a Delphi process.

RESULTS: We included 628 patients, 2214 catheters (873 PVCs, 630 CVCs, 512 ACs and 199 HDCs and PACs) and 4836 dressings. Overall incidence rate was of 60.9/1000 catheter-days. The most common complication was dysfunction (34.6/1000 catheter-days), mainly for PVCs (16/1000 catheter-days) and ACs (12.9/1000 catheter-days). Infectious complications incidence rate in CVCs and ACs was of 14.5/1000, mostly due to colonization (14.2/1000 catheter-days). Thrombosis incidence was of 3.8/1000 catheter-days with severe and very severe complications in 16 cases (1.8/1000 catheter-days) and one thrombosis-related death. 3M™ IV Advanced dressing did not decrease the rate of catheters with at least a minor complication [57.37/1000 vs. 57.52/1000 catheter-days, HR 1.03, CI (0.84-1.27), p = 0.81].
Incidence rates for each single complication remained equivalent: infectious, deep thrombosis, extravasation and phlebitis, accidental removal [1.07 (0.56-2.04), p = 0.84] and dysfunction.

CONCLUSION: The ADVANCED study showed the overall risk of complications to intravascular catheters in ICU patients being dysfunction, infection and thrombosis. The 3M™ IV Advanced dressing did not decrease complication rates as compared to standard dressings.

Reference:


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