

## Effectiveness of topical vancomycin in the prevention of spinal surgical site infections: a retrospective cohort study

Rawan Toufic Tafish

Kingdom Hospital and Consulting Clinics, KSA

### Abstract

The risk of surgical site infections (SSIs), particularly methicillin-resistant staphylococcus aureus (MRSA) SSIs, post spinal surgeries is one of the most daunting experiences to patients and surgeons. In some practices, vancomycin powder is applied directly on the wound before skin closure to minimize the risk of SSIs; however, this practice is not supported by well-established evidence. A retrospective cohort study was conducted using the hospital database. Patients who underwent spinal surgeries from the period of 09/2013 to 09/2019 were included and followed up to 30 days (surgeries without implantation) or 90 days (with implantation). The odds ratio (OR) of the first SSI observed in the follow-up period between vancomycin users vs. non-users was estimated using logistic regression adjusting for the measured confounders. A sensitivity analysis was conducted using a propensity score analysis. We included 81 vancomycin users vs. 375 non-users with 28 infections. The adjusted OR of SSIs between the two groups was 0.40 (95% confidence interval [CI] 0.11 to 1.34). The result of the propensity score analysis was consistent (OR: 0.97 [95% CI 0.35 to 2.68]). We could not find a lower association of SSIs with intra-wound vancomycin in patients who underwent spinal surgeries. Conducting larger multicenter studies would add more emphasis to findings of this study.

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