

Surgical site infection in dorsal cervical instrumentation: a comparative analysis of wound closure techniques.

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Background: Surgical site infections (SSI) remain a significant concern in spine surgery, particularly in dorsal cervical instrumentation procedures. The aim of this study is to determine if a closed dressing protocol reduces SSI rates compared to conventional closing techniques.

Research question: Is there a higher rate of wound infections of patients with dorsal cervical instrumentation procedures with cyanoacrylate dressing systems compared to conventional closing techniques.

Design: Retrospective analysis

Methods: A retrospective analysis was conducted on a cohort of patients who underwent dorsal cervical instrumentation procedures between 2010 and 2020 at one center. Patients were categorized into 2 general groups: *Closed-Protocol*, where we applied the cyanoacrylate dressing system Dermabond[®] + Prineo[®], removed after 14 days; and *Conventional-Protocol*, which included sutures or staples. Statistical analysis was undertaken to compare the infection rate between the different closure techniques.

Results: 100 patients were included. 91% of wounds were closed following the conventional protocol (n = 79 sutures, n = 12 staples) and in 9% of cases closure was conducted following the closed protocol (n = 9 cyanoacrylate). There were no significant differences observed between the two groups in terms of demographics. The overall infection rate was 5% (n = 5), whereas all of these SSI occurred in the conventional wound closure group (p = 0.001)

Conclusion: SSIs was more common with conventional skin closing techniques, while no infections occurred utilizing the closed protocol. Therefore, Prineo[®] seems to be a save alternative to sutures and staples in dorsal cervical instrumentation procedures.

Larger cohorts are necessary to demonstrate a significant statistically significant difference between closure types.