The use of surgical sealants in the repair of dural tears during non-instrumented spinal surgery.

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Publication Date: 2014

Abstract:

PURPOSE: To compare the success in repair of dural tears (DTs) using two different surgical sealants in non-instrumented lumbar spinal surgery and evaluate the incidence of associated short- and long-term complications.

METHODS: Twenty-three patients undergoing non-instrumented spinal surgery with intraoperative DTs were included both retrospectively and prospectively in this study. External signs of CSF leakage, neurological deficits, and infection-related complications were investigated postoperatively. The persistence of low-back pain was also evaluated and postoperative MRI was performed in all patients. DTs were repaired intraoperatively using suture with or without a dural patch. Eleven patients received an application of fibrin glue (Tissucol(); Baxter, Inc., IL, USA) and 12 patients received an application of bovine serum albumin glutaraldehyde surgical adhesive (BioGlue() Surgical Adhesive; CryoLife, GA, USA). These patients were followed up at 3 months and 1 year postoperatively.

RESULTS: Successful intraoperative DT repair was obtained in all cases. Three patients in the Tissucol group presented with CSF leakage in the early postoperative period. There were no complications observed in the patients treated with BioGlue. At 3-month follow-up, no incidences of neurological or infection-related complications were observed in either group. There was no statistically significant difference in VAS between the two treatment groups.

CONCLUSIONS: Intraoperative DTs can be easily repaired by many effective techniques. However, in our experience, the use of BioGlue is an effective adjunct to immediate dural repair, being comparable in terms of efficacy and safety to the use of fibrin glue, potentially decreasing the incidence of associated short- and long-term complications.