The dural repair using the combination of polyglycolic acid mesh and fibrin glue and postoperative management in spine surgery.

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Abstract:

Background Accidental dural tears are iatrogenic complications during spine surgery. However, there is no established intraoperative method or postoperative management in this situation. To examine the efficacy of the intraoperative method of dural repair, which consists of using the combination of a polyglycolic acid (PGA) mesh and fibrin glue, and the postoperative management of accidental dural tear or intended durotomy. Methods Seventy-five patients (34 males and 41 females; age range, 16-80 years; mean age, 57.1 years) underwent dural repair intraoperatively from December 2007 to January 2015 at our institution. We repaired dural tears using suture or nonpenetrating titanium clips, followed by reinforcement with a PGA mesh and fibrin glue intraoperatively. In all cases, epidural drains were placed in the wound, then taken off suction and maintained on gravity only. Postoperatively, patients were kept on flat bedrest until the drain was removed, and were allowed to elevate the head and ambulate as early as possible. Medical records were reviewed retrospectively. Results Only one patient with persistent cerebrospinal fluid (CSF) leakage underwent reoperation for dural repair 4 days after the initial operation. Another patient had irrigation and debridement for superficial surgical-site infection. The remaining patients had good clinical course without reoperation. Conclusions Our method of dural repair (i.e., the combination of a PGA mesh with fibrin glue) and postoperative management appear to be effective and safe in this situation. Only one patient out of 75 (1.3%) required reoperation for dural repair.