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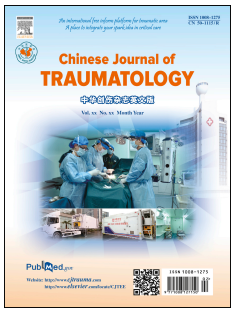

Treatment of cerebrospinal fluid leak after spine surgery

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Review article

Treatment of cerebrospinal fluid leak after spine surgery

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Abstract

Owing to the complexity of spinal surgery, there is a great prevalence of dural tear causing cerebrospinal fluid (CSF) leakage. Many studies focused on suture repair for dural tear to stop CSF leak. Now some new treatment strategies have shown a promising effect that is listed as follows: 1) creating watertight dural closure to stop CSF leak with the help of dural substitute material; and 2) retarding CSF leak by changing pressure difference, including reducing the subarachnoid fluid pressure, increasing the epidural space pressure and both. In fact several methods mentioned above are usually combined to treat CSF leak. However, no update review summarized the relevant studies implemented in recent years. In this review, the authors would compare the effects of different dural closure techniques, and introduce the latest treatment methods and mechanisms.

Keywords: Spine; Cerebralspinal fluid leak; Therapeutics

The incidence of durotomy-induced CSF leak varied with different spinal procedures. If handled improperly, it may lead to a number of adverse sequelae, such as CSF fistulas (persistent leak through the incision), meningitis, brain abscess, intracranial hemorrhage, hematoma, and neurological deficits.[1-4] Literature review was conducted from the databases of PubMed, Ovid, and Elsevier. Papers associated with treatment options as well as outcome analysis were eligible for evaluation. Quantitative data on successful rate in complete closure, complications, as well as advantages and shortcomings were analyzed.