The awake endoscope-guided sealant technique with fibrin glue in the treatment of postoperative cerebrospinal fluid leak after extended transsphenoidal surgery: Technical note.

Authors: Cavallo L.M., Solari D., Somma T., Savic D., Cappabianca P.

Publication Date: 2014

Abstract:

Background: The introduction of extended endoscopic endonasal approaches for the management of midline skull base lesions has brought again the focus on the problem of postoperative cerebrospinal fluid (CSF) leak management. Notwithstanding the improvements in reconstruction techniques that have reduced the rate of postoperative CSF leakage, no technique has proven to be thoroughly effective.

Methods: Nine patients complaining of postoperative CSF leaking after extended endoscopic endonasal surgery for different suprasellar lesions were managed without reoperation by means of repeated endoscopic endonasal fibrin glue injections in the sphenoid sinus cavity while they were awake in the outpatient operating room. Only a few patients required light sedation with benzodiazepine. To help the healing process, lumbar CSF diversion was used in four patients who complained of moderate and severe leaks, Results: We achieved an effective and resilient closure of the skull-base defect in all cases who underwent the endoscope-guided fibrin glue injection for the management of postoperative CSF leak after endoscopic endonasal surgery. Of the four patients presenting a "weeping" leak, one patient required a single injection, whereas three required two procedures; no lumbar drainage was used. Two patients with "moderate" leaks received four injections and in both a lumbar drain also was positioned. In the other two patients, three (in this case a lumbar drain was used) and two injections were performed, respectively. We managed the patient with severe leaking by performing an injection five times, and lumbar drainage was placed.

No complications related to procedure or to the use of this material were observed (mean follow-up, 26.6 months; range, 5-63).

Conclusions: An endoscope-guided sealant technique with fibrin glue used while the patient is awake has proven, in our experience, to be effective in reducing the rate of reoperations in the management of postoperative CSF leaking after endoscopic endonasal approaches for the treatment of intradural skull base lesions. This technique, which needs larger case series to be validated, could be considered in the spectrum of possibilities to manage selected postoperative CSF leakages.