

# Cerebrospinal Fluid Leakage during Transsphenoidal Surgery: Postoperative External Lumbar Drainage Reduces the Risk for Meningitis

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## Objective

Postoperative meningitis is a well known complication of transsphenoidal surgery (TSS).

The objective of this study was to evaluate whether postoperative external cerebrospinal fluid (CSF) drainage in case of intraoperative CSF-leakage, reduces the risk of postoperative meningitis.

## Methods

We retrospectively reviewed a series of 278 consecutive transsphenoidal operations. In all operations with intraoperative CSF leakage, an external lumbar drain (ELD) was inserted directly postoperatively, and removed after at least 5 days.

The incidence of postoperative meningitis was compared with that in a previously studied series of 228 consecutive transsphenoidal operations, without insertion of an ELD in cases with intraoperative CSF leakage.

## Results

In the present series, postoperative meningitis occurred in 2/278 (0.7%) operations, compared to 7/228 (3.1%) operations in the previous study period ( $P < 0.05$ ). Intraoperative CSF leakage was noted in 70/278 (25.2%) operations. All these patients received an ELD immediately after surgery for at least 5 days. There were no reported complications of ELD insertion.

## Conclusion

The present report on 278 consecutive transsphenoidal operations shows that the routine insertion of an ELD in patients in whom intraoperative CSF leakage is observed significantly reduces the incidence of postoperative meningitis. Possibly, diversion of CSF prevents the formation of a CSF fistula and thereby the risk of infection. The role of prophylactic antibiotic treatment in patients with CSF rhinorrhea after TSS remains to be established.

*Key Words: cerebrospinal fluid, drainage, leakage, meningitis, transsphenoidal.*