

Sellar reconstruction using biomaterials after transsphenoidal surgery in 449 cases of pituitary adenomas.

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Abstract:

BACKGROUND: We report the methods and effects of sellar reconstruction using biomaterials in 449 cases of pituitary adenoma undergoing transsphenoidal surgery from August 2009 to August 2010. **METHODS:** During transsphenoidal surgery (including 15 cases assisted with endoscope), diaphragma sellae damage and cerebrospinal fluid (CSF) leakage occurred in 52 cases intraoperatively. The resection cavity was packed with absorbable hemostatic cotton and gelatin sponge, and then artificial dura mater and fibrin glue were used to seal and reconstruct the sellar floor. Postoperative and delayed CSF leakage occurred in 6 and 2 cases, respectively. To manage the CSF leakage, the removal of intranasal vaseline gauze was postponed; and meanwhile, continuous lumbar CSF drainage and/or mannitol were used to decrease the intracranial pressure. **RESULTS:** The incidence of CSF leakage was 12% (52 cases) intraoperatively, 1.3% (6 cases) postoperatively, and incidence of delayed CSF leakage was 0.45% (2 cases). For cases of postoperative CSF leakage, postponed removal of intranasal vaseline gauze and reducing intracranial pressure were effective methods. Most cases were cured in 1 week. **CONCLUSION:** In transsphenoidal surgery of pituitary adenoma, an exact intrasellar packing and sellar floor reconstruction with artificial dura mater and fibrin glue are effective and affirmative to prevent postoperative CSF leakage. Copyright © 2013 by Lippincott Williams & Wilkins.