Abdominal fat graft

Establishing a reconstruction protocol for cerebrospinal fluid fistula prevention in patients undergoing pituitary neuroendocrine tumor surgery is crucial for facilitating intraoperative decision-making and reducing the incidence of complications

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Designing the nasoseptal flap at the start of surgery in cases with a high preoperative risk of cerebrospinal fluid fistula (significant suprasellar extension or absence of a sellar barrier). Additionally, a rescue flap can be used in other cases, with reconversion to the nasoseptal flap in the event of an intraoperative fistula. The use of abdominal fat graft in cases of high-flow fistulas.

Delayed postoperative Cerebrospinal fluid fistulas are uncommon and largely unstudied complications. In a study, London et al. aimed to identify they're etiology and understand the efficacy of various reconstruction strategies.

A retrospective chart analysis of 1017 endonasal skull base surgeries performed by a single neurosurgeon was completed identifying delayed CSF leaks (occurring >1 week after surgery).

Seventeen cases of early (1-2 weeks after surgery) or delayed (>2 weeks after surgery) postoperative Cerebrospinal fluid fistula were identified. The most common reconstruction during the initial surgery consisted of an inlay or gasket seal collagen matrix (82.4% of patients) with an onlay pedicled flap (76.5% of patients). Presenting symptoms of delayed Cerebrospinal fluid fistula included rhinorrhea (82.4%), headache (41.2%), and meningitis (23.5%). The most common causes included flap dehiscence (17.6%); provoking events such as emesis, sneezing, or fall (17.6%); flap necrosis (11.8%); flap displacement (11.8%); and inadequate apposition of the flap, that is, folded flap (11.8%). Reconstructive techniques of the delayed Cerebrospinal fluid fistula included fortification of the initial reconstruction with free fat grafts (29.4% of patients), combined collagen matrix with a fat graft (23.5% of patients), repositioning of the previous flap (11.8% of patients), and repair with a new flap (11.8% of patients). CSF diversion (spinal/ventricular drain or shunt) was used in 17.6% of patients.

This study identifies the most common etiologic factors leading to a delayed Cerebrospinal fluid fistula and its initial symptoms. Furthermore, it serves as the foundation for a reconstructive algorithm based on reinforcement of the initial repair with free abdominal fat graft with or without collagen matrix [1)].

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London NR Jr, Mohyeldin A, Montaser AS, Tanjararak K, Prevedello DM, Otto BA, Carrau RL. Contributing factors for delayed postoperative cerebrospinal fluid leaks and suggested treatment algorithm. Int Forum Allergy Rhinol. 2020 May 3. doi: 10.1002/alr.22544. [Epub ahead of print] PubMed PMID: 32362077.