Cruciate embedding fascia-bone flap

Data from consecutive patients diagnosed with sellar region lesions with grade II-III Cerebrospinal fluid fistula after endoscopic skull base surgery during endoscopic endonasal surgery were collected from May 2015 to May 2020. Skull base reconstructions were performed with the cruciate embedding fascia-bone flap (CEFB) or the conventional Hadad-Bassagasteguy flap. Related clinical data were analysed. The combined use of the CEFB and PNSF was applied to an additional supplemental case series of patients with grade III leak and multiple high-risk factors.

There were 110 and 65 patients included in the CEFB and PNSF groups, respectively. The CEFB demonstrated similar effects on the incidence of postoperative CSF leak (2.7%), intracranial infection (4.5%), and lumbar drainage (LD) placement (5.5%) as PNSF (3.1%, 3.1%, and 6.2%), but with less epistaxis (CEFB: 0%, PNSF: 6.2%) and nasal discomforts (CEFB: 0%, PNSF: 7.7%). The LD duration (CEFB: 6.67 ± 2.16 days, PNSF: 10.50 ± 2.38 days), bed-stay time (CEFB: 5.74 ± 1.58 days, PNSF: 8.83 ± 3.78 days) and hospitalization time (CEFB: 10.49 ± 5.51 days, PNSF: 13.58 ± 5.50 days) were shortened in the CEFB group. The combined use of CEFB and PNSF resulted in 0 postoperative CSF leaks in the supplemental case series of 23 highly susceptible patients.

This study suggested that the new CEFB technique has the potential to prevent postoperative CSF leak in EES. The results indicated that it can be used effectively without PNSF in suitable cases or applied in addition to a PNSF with high compatibility when necessary. Its effectiveness should be further verified with a larger cohort and better design in the next step. Trial Registration Current Controlled Trials ChiCTR2100044764 (Chinese Clinical Trial Registry); date of registration: 27 March 2020. Retrospectively registered [1)].

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Zhao W, Yang G, Li R, Huo G, Gao D, Cao M, Wang X. Effects of cruciate embedding fascia-bone flap technique on grade II-III cerebral spinal fluid leak in endoscopic endonasal surgery. BMC Surg. 2022 Jul 26;22(1):288. doi: 10.1186/s12893-022-01730-9. PMID: 35883063.