## Superficial temporal fat pad

Contour irregularities in the temporal region have been reported previously after procedures involving temporal dissection.

In a study, Krug et al. reported paradoxical temporal enlargement (PTE) following interfascial dissection in pterional craniotomy.

A retrospective review of patients who underwent a unilateral transcranial procedure with a frontotemporal approach between September 2013 and December 2017 was performed. Patients with a previous craniotomy or bilateral craniotomy were excluded. Radiological imaging series including computed tomography and magnetic resonance imaging were utilized to calculate temporal soft tissue volumes both preoperatively and postoperatively by using advanced software technology. Relative soft tissue volume differences between the operative side and the contralateral side were calculated at different time-points including preoperative, 3-months follow-up (3M), 12-months (12M) follow-up, and the last follow-up (LFU, over 1-year).

Forty-three patients were included. Mean age was  $52.7 \pm 4.5$  years. Mean follow-up was  $27.9 \pm 15.8$  months. Significant changes of temporal fat pad relative-volume difference were observed between the preoperative and the corresponding 3M (t [82] = -2.8865, P = 0.0050); 12M (t [77] = -4.4321, P < 0.0001), and LFU (t [74] = -4.9862, P < 0.0001) postoperative time points. No significant change of the temporal muscle was observed between the preoperative and the corresponding 3M (P = 0.3629), 12M (P = 0.1553), or LFU (P = 0.0715). Soft tissue volume showed a significant increase on the operative side between the preoperative and the corresponding LFU (t [74] = -2.5866, P = 0.0117).

Paradoxical temporal enlargement with more than 10% volumetric change was observed in 24% of the patients at their LFU (>1-year). This change was not due to temporalis muscle changes. Paradoxical temporal enlargement was due to hypertrophy of the superficial temporal fat pad. Before surgical correction of postoperative temporal contour changes, it is important to obtain imaging and characterize the etiology of the deformity <sup>1)</sup>.

Interfascial dissection between two layers of deep temporal fascia through the intermediate fat pad is superior to other approaches because of the lack of facial nerve branches in this plane. The Intermediate fat could be easily separated from deep layer of deep temporal fascia<sup>2)</sup>.

Recognizing the IFV in the interfascial space is of great help as an anatomic landmark to confirm that one is actually between both layers of the superficial temporal fascia <sup>3)</sup>.

No branches of the frontotemporal branches (FTB) are found in the interfascial (between the superficial and deep leaflet of the temporalis fascia) fat pad. The interfascial dissection can be safely performed without risk of injury to the FTB and potential subsequent frontalis palsy <sup>4)</sup>

## 1)

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