Interfascial dissection

- Analytical and comparative study of pterional craniotomy related to temporalis muscle dissection techniques: Interfascial temporalis and myocutaneous flap
- Assessment of ultrasound-guided external oblique intercostal block injections in dogs
- How I do it: far-lateral approach using a linear incision
- Cadaveric study of the ultrasound-guided inter-transversospinalis plane block in dogs for the cervical epaxial musculature region
- Thoracolumbar Interfascial Plane (TLIP) block verses other paraspinal fascial plane blocks and local infiltration for enhanced pain control after spine surgery: a systematic review
- Anatomic evaluation to compare the dye spread with ultrasound-guided pericapsular nerve group (PENG) injection with or without an additional suprainguinal fascia iliaca (SIFI) injection in soft embalmed cadavers
- Novel Hybrid Technique for Preservation of Frontal Branch of Facial Nerve: Subgaleal Preinterfascial Dissection
- A Prospective Comparison Between Soft Tissue Dissection Techniques in Pterional Craniotomy: Functional, Radiological, and Aesthetic Outcomes

Interfascial dissection prevents palsy of the frontotemporal branches of the facial nerve.

When Gazi Yasargil first described standard techniques and procedures for pterional craniotomy (PC) in his publication in 1984, subgaleal dissection was used for separation and mobilization of the temporalis muscle. Because subgaleal dissection of the temporalis muscle bears a significant risk of injury to the frontal branches of the facial nerve, various surgical techniques have been adopted such as interfascial dissection and subfascial dissection. However, interfascial dissection is somewhat complex and time-consuming, and, because the facial nerve sometimes courses into the interfascial space, it still cannot eliminate the risk of facial nerve injury. Subfascial dissection is also time-consuming and may result in injury to muscle fibers and intramuscular bleeding. These two techniques require transection of the temporalis muscle to leave a cuff for closure, which causes functional and cosmetic problems by muscle fibrosis and atrophy.

The interfascial dissection is safe to be started from the most anterior part of the superior temporal line and followed to the root of the zygoma. The dissection is continued on the deep temporalis fascia (DTF), and the interfascial fat pad is elevated. With the subfascial dissection, both the superficial temporalis fascia and the DTF are elevated. The interfascial dissection exposes the zygomatic arch directly, whereas the subfascial dissection requires an additional cut on the DTF to expose the zygomatic arch. Proper subperiosteal dissection on the zygomatic arch is another important step in FTB preservation [1].

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 [2]. [3].

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 ± 4.5 years. Mean follow-up was 27.9 ± 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 [4].

1)
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