Surgical Therapy of Temporal Migraine Headache

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Abstract

The pathophysiology of migraine headache is subject of debate but a great amount of literature demonstrates that chronic compression of peripheral nerves caused by surrounding structures (e.g., muscles, blood vessels and fascial bands) is responsible for its origin. In particular, in the temporal migraine headache there are two primary trigger points: the auriculotemporal and the zygomaticotemporal nerves. The surgical approach aims at decompressing the chronically inflamed nerves from the compressing surrounding structures.
We reported the experience of our team in this field and we described the adopted surgical approach to treat temporal trigger points in migraine headache. Our technique is minimally invasive and all the procedures are performed in local anaesthesia with intravenous sedation as one-day surgery. Only minor complications (e.g. oedema, hematoma/ecchymosis, numbness and paraesthesia) are reported (incidence 1-5%). Mean follow-up time was 21 months and we achieve 83% positive surgical outcome: 50% complete migraine headache elimination and 33% significant improvement (defined as >50% improvement). 17% of the cases hadn't beneficial from the procedures (<50% improvement).
Our results supported data previously reported in literature. Like upper limb compressive neuropathies, temporal migraine headache (and migraine headache in general) is believed to be generated by chronic compression of peripheral nerves (the terminal branches of trigeminal nerve in this case) caused by surrounding structures, the removal of which results in improvement or total elimination of migraine attacks. The crucial point is the close nerve/artery relationship and the ligation of the artery resulted in migraine resolution.
This approach is recommended to patients with severe forms of temporal migraine and condition of drug dependency.

Recent Publications

1. Raposio E, Caruana G. Tips for the surgical treatment of occipital nerve-triggered headaches. *Eur J Plast Surg*. 2017:40;3:177-182.

2. Raposio E, Bertozzi N, Bordin C, Simonacci F. Surgical therapy of migraine and tension-type headache. In: *Current Perspectives on Less-Known Aspects of Headache*. (Turker H. ed.). InTech, London, UK. pp.: 93-114.

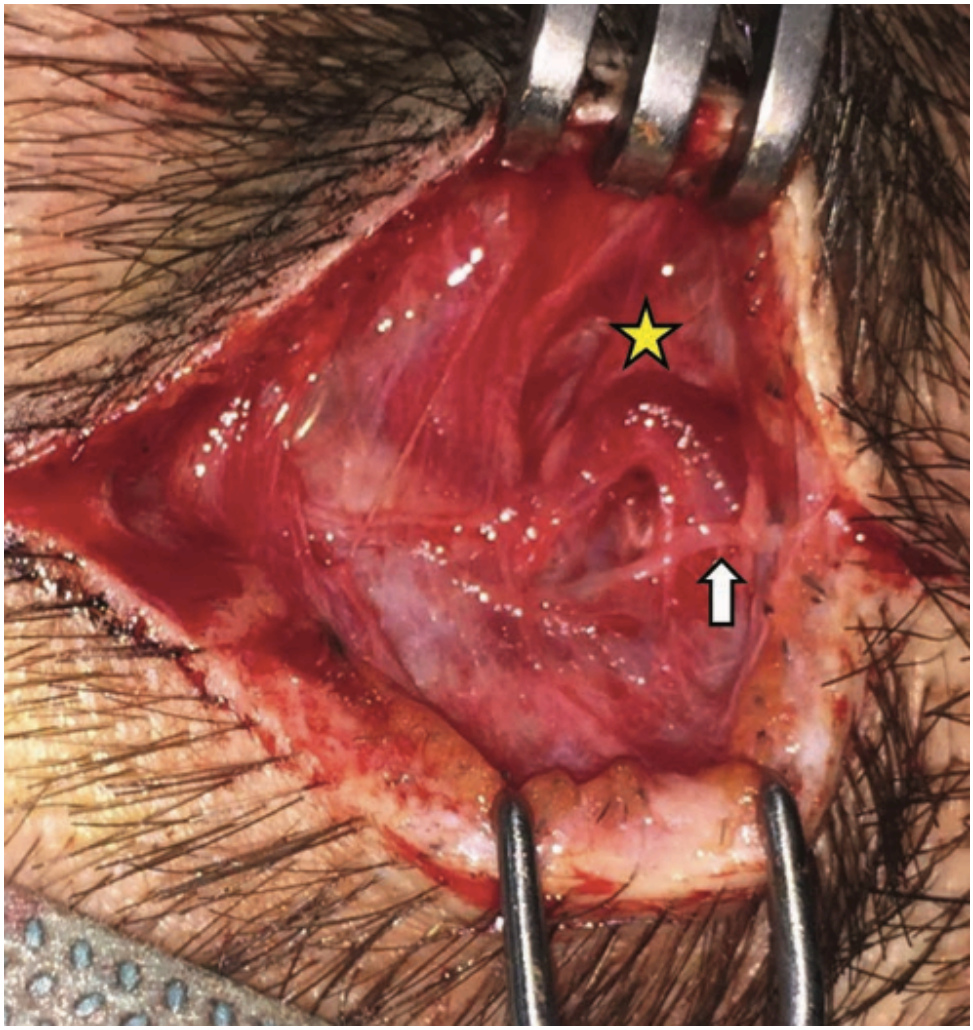
3. Polotto S, Simonacci F, Grignaffini E, Grieco MP, Raposio E. Surgical Treatment of Frontal and Occipital Migraines: A Comparison of Results. *Plast Reconstr Surg Glob Open*. 2016;18;4(3):e653.

4. Raposio E, Caruana G. Minimally Invasive Endoscopic Surgical Treatment of Headache. In: *Atlas of Endoscopic Plastic Surgery*. (Raposio E., ed.). Springer, New York, USA, 2015; pp.: 17-23.

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7. Caruana G, Bertozzi N, Boschi E, Pio Grieco M, Grignaffini E, Raposio E. Endoscopic forehead surgery for migraine therapy Personal technique. *Ann Ital Chir*.



Biography

Carlo Fante, MD, is a first year resident at the School of Plastic, Reconstructive and Aesthetic Surgery of the University of Parma directed by Professor Edoardo Raposio. He works in the unit "Chirurgia della cute ed annessi, mininvasiva, rigenerativa e plastica" specialized in the surgical treatment of the migraine headache that is here performed since the 2011.

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