

# Glossopharyngeal neuralgia transforming into trigeminal neuralgia: a case report.

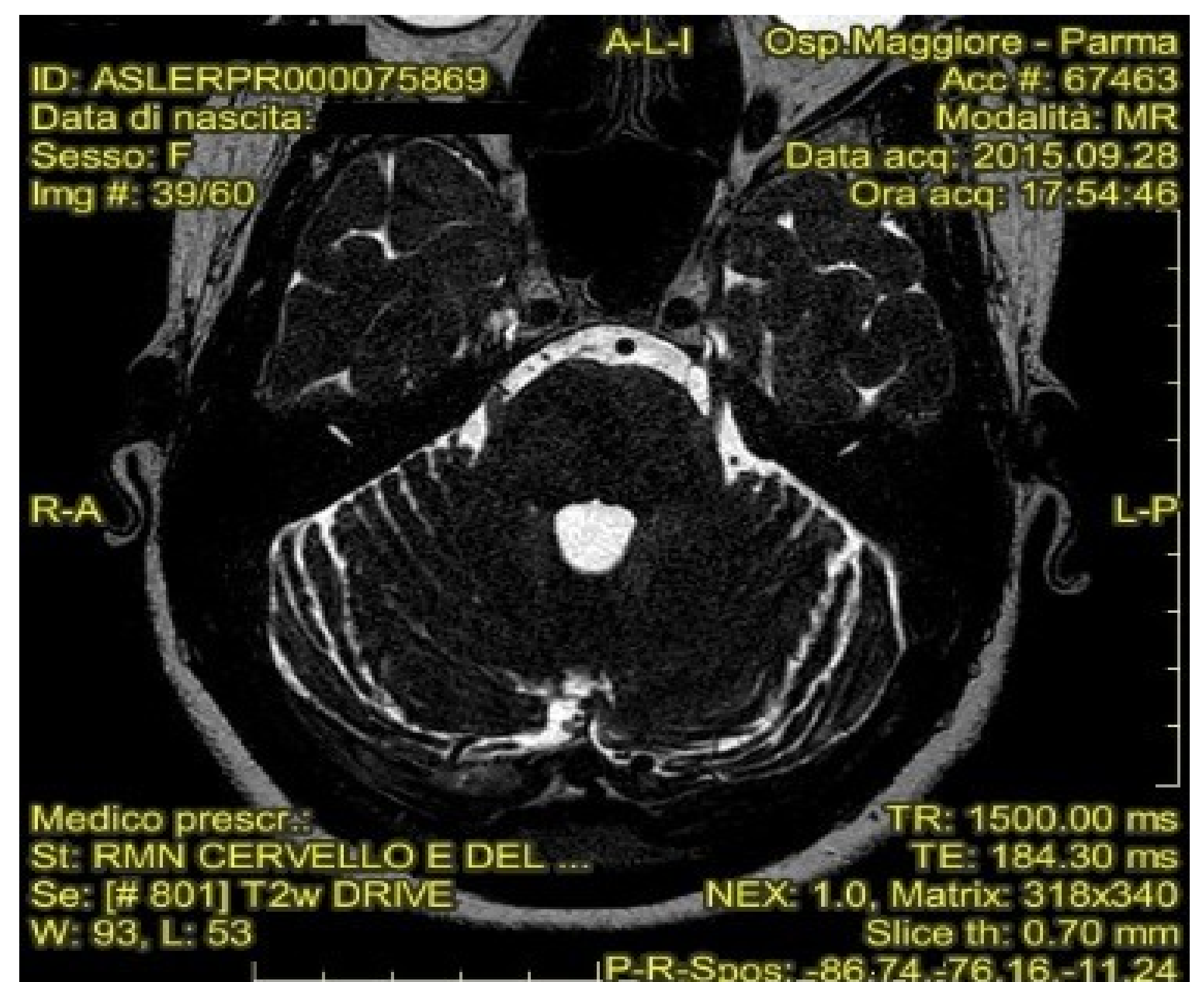
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## Background

Glossopharyngeal neuralgia (GPN) is a rare syndrome characterized by paroxysms of stabbing pain located on one side of the throat, near the tonsillar area, sometimes radiating into the ear [1]. GPN is often misdiagnosed as trigeminal neuralgia (TN). There are literature data on the coexistence of these two syndromes [2], but cases of transformation from one entity into the other have never been reported.



## Case report

In 2013 a 40-year old woman, with a history of seronegative rheumatoid arthritis, developed attacks of shock-like pain located **near the right tonsillar fossa, triggered by swallowing, speaking and yawning**. The attacks lasted only few seconds with a pain-free interval ranging from minutes to hours.

An *orthopantomography* was unremarkable; the patient then underwent a *brain MRI*, including *contrast enhanced MR angiography* (MRA), which excluded a symptomatic aetiology and a neurovascular conflict.

The patient received a diagnosis of classical **glossopharyngeal neuralgia** and began a preventive treatment with carbamazepine (400 mg po bid), without benefit.

Carbamazepine was then successfully replaced with gabapentin (300 mg po tid); however, the patient developed diarrhea and the treatment was gradually discontinued. One month after gabapentin withdrawal, the patient experienced a relapse of shock-like attacks now located **in the inferior right dental arch, and typically triggered by cutaneous stimuli near the inferior right lip (touching, brushing teeth, cold wind, eating)**. A diagnosis of classical **trigeminal neuralgia** was made. To obtain a complete pain control, it was necessary a complex polytherapy, which included lamotrigine (100 mg po bid), pregabalin (150 mg po bid) and baclofen (10 mg po tid). Nowadays the medical therapy has been successfully tapered, and the patient is continuing only lamotrigine (25 mg po bid).

## Discussion and conclusion

We report a case of glossopharyngeal neuralgia transformation into a trigeminal neuralgia, temporally related to the discontinuation of an effective preventive treatment. Considering the absence of a neurovascular conflict at MRA and the common central pain projection of Vth and IXth cranial nerves (spinal trigeminal nucleus, “pars caudalis”) [3], our case highlights the possibility of a common central generator of pain in both trigeminal and glossopharyngeal neuralgia. Some critical remarks could be addressed to our hypothesis: (1) a neurovascular conflict can't be certainly excluded without a surgical exploration of the posterior cranial fossa; (2) the well described anastomotic [3] branches between the Vth and IXth cranial nerve could explain the transformation or coexistence of the two neuralgias.

## References

- [1] Headache Classification Committee of the International Headache Society (IHS) (2013) The International Classification of Headache Disorders, 3rd edition (beta version). Cephalalgia 33:629–808.
- [2] Yoshioka J, Ueta K, Ohmoto T, Fujiwara T, Tabuchi K (1985) Combined trigeminal and glossopharyngeal neuralgia. Surg Neurol 24(4):416–20.
- [3] Johnson LR, Westrum LE, Henry MA (1991) Anatomic organization of the trigeminal system and the effect of deafferentation. GH Fromm, BJ Sessle (Eds.), Trigeminal Neuralgia: Current Concepts Regarding Pathogenesis and Treatment. Butterworth-Heinemann, Boston pp.27-71.