FACULTY OF HEALTH SCIENCES
UNIVERSITY OF COPENHAGEN

GLOBAL EXCELLENCE IN HEALTH

Danish Headache Center

Trigeminal neuralgia

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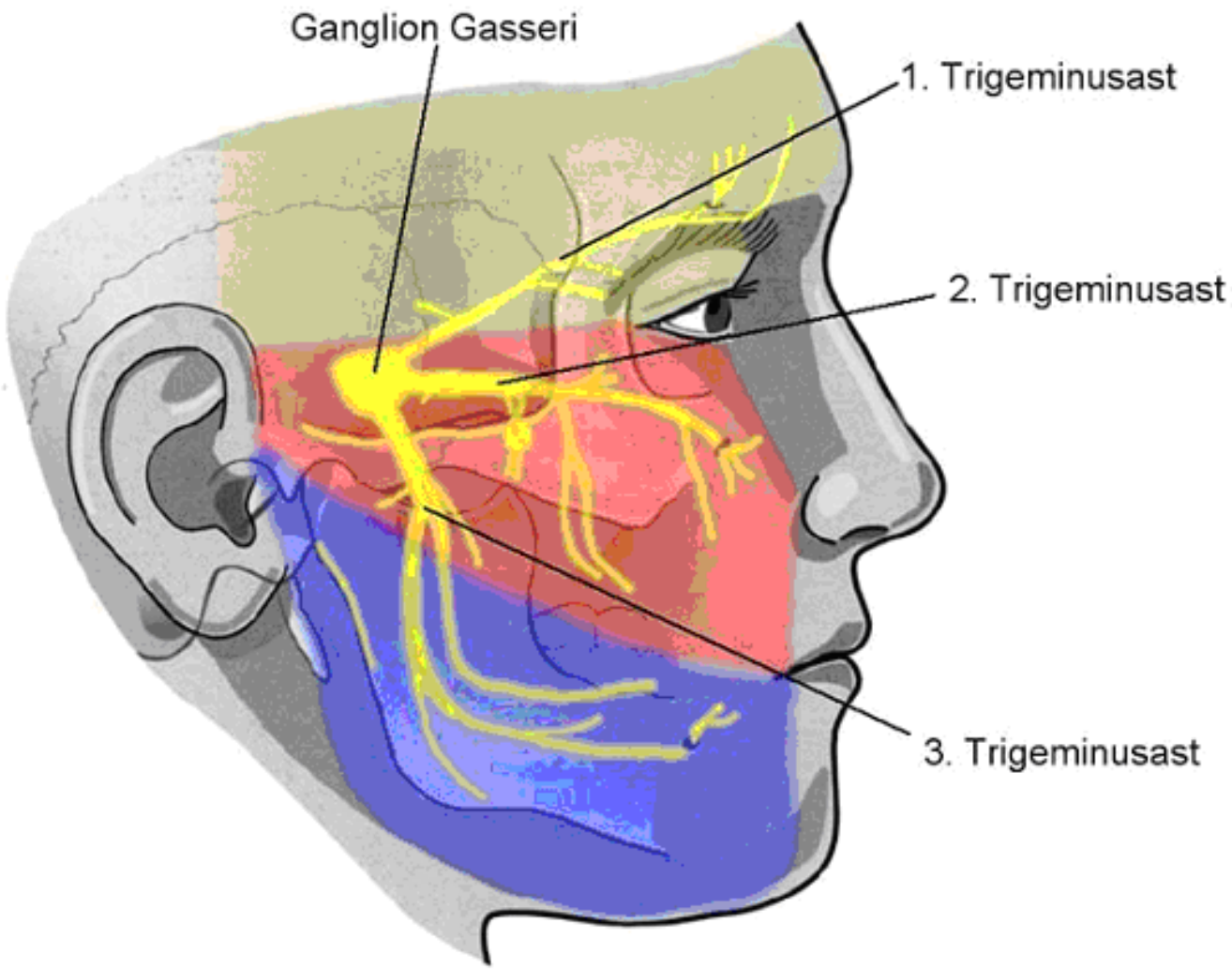
Getting to grips with headache, London, September, 2012

Clinical characteristics

- Usually a unilateral disorder with intense ultra-short stabbing pains in one or more divisions of the trigeminal nerve
- Usually starts in 2. or 3. division
- Onset usually occurs after 45 years of age
- Pain is often evoked by stimuli such as chewing, washing the face, speech or brushing teeth but also occurs spontaneously

Major branches



Clinical characteristics

- Often misinterpreted as pain from teeth or sinuses in the beginning
- Between attacks a dull background pain may persist
- Pains usually remit for variable periods
- Persistent idiopathic facial pain (atypical facial pain) does not have the neuralgiform characteristics seen in TN, but is often a more constant, diffuse pain
- Trigeminal autonomic cephalalgias (TACs) are characterized by autonomic features

Diagnostic criteria
Classical trigeminal neuralgia

A. Paroxysmal attacks of pain lasting from a fraction of a second to 2 minutes, affecting one or more divisions of the trigeminal nerve and fulfilling criteria B and C

B. Pain has at least one of the following characteristics:

   1. Intense, sharp, superficial or stabbing
   2. Precipitated from trigger areas or by trigger factors

C. Attacks are stereotyped in the individual patient

D. There is no clinically evident neurological deficit

E. Not attributed to another disorder

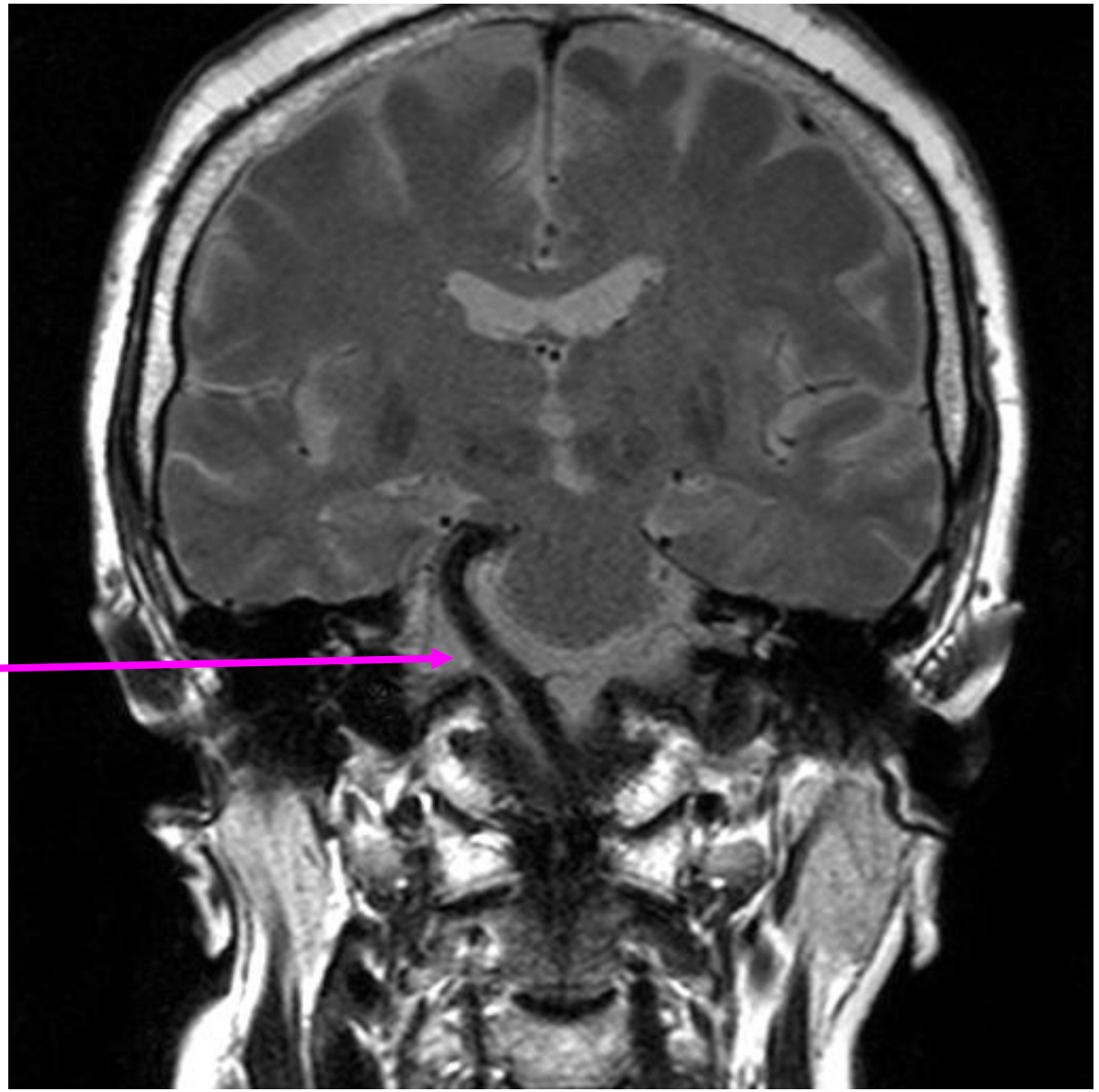
Diagnosis

- Classical TN may or may not be caused by vascular compression
- Symptomatic TN is caused by a lesion other than vascular compression, e.g., space-occupying process in posterior fossa or multiple sclerosis plaque
- Approximately 15% of TN are symptomatic

Diagnosis

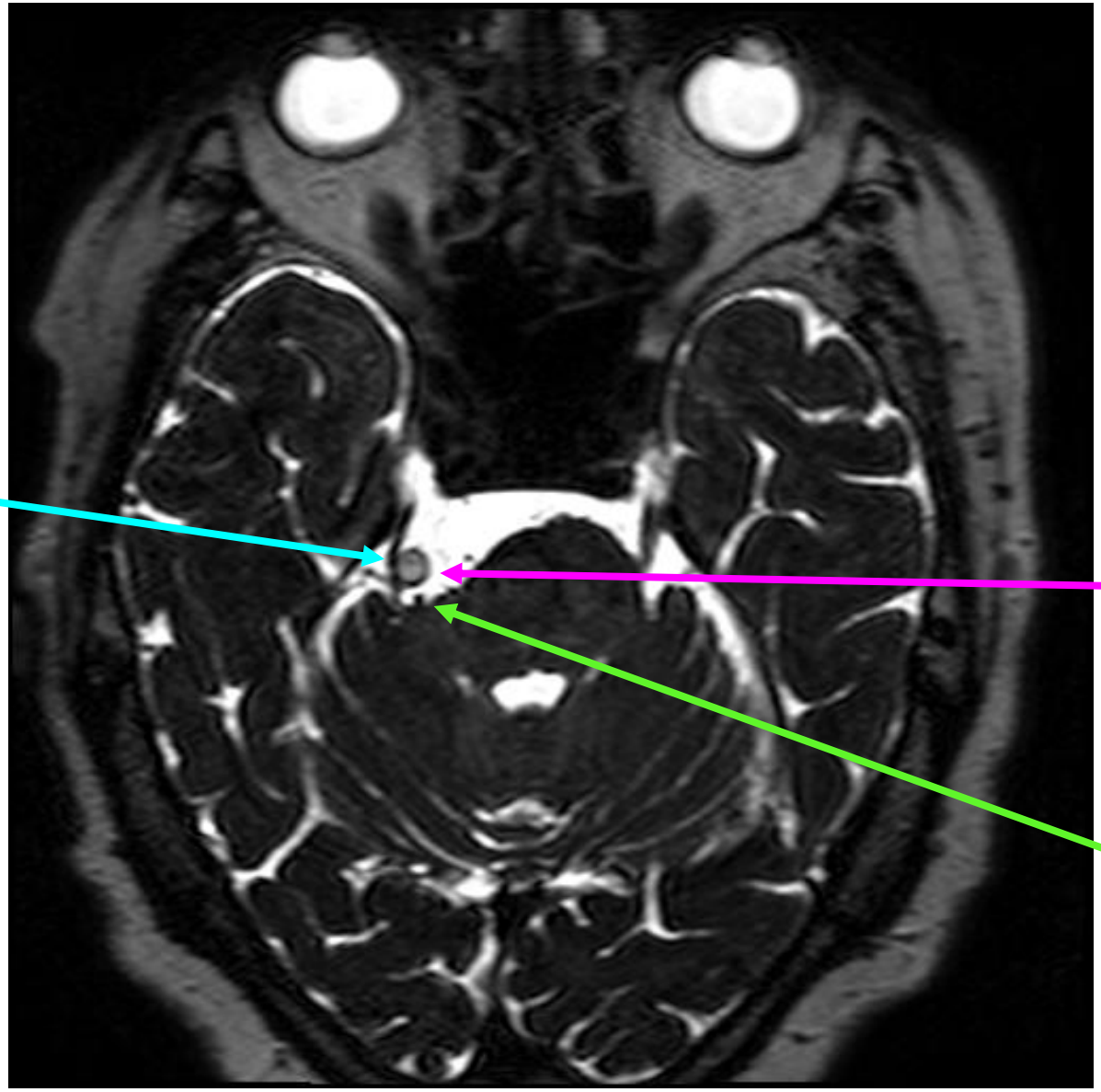
- How to differentiate between classical and symptomatic TN?
- Finding of sensory deficits and bilateral pain raises suspicion of symptomatic TN
- Age of onset, involvement of V1 or lacking effect of medications can not be used to differentiate
- Symptomatic TN can not be excluded clinically
- MRI should be performed in all patients (*e.g. 3 tesla heavy weighted T2 thin slice BSSE/CISS covering prepontine cisternal part of TN and TOF angio*)

T2 cor



Left vertebral artery

T2 ax

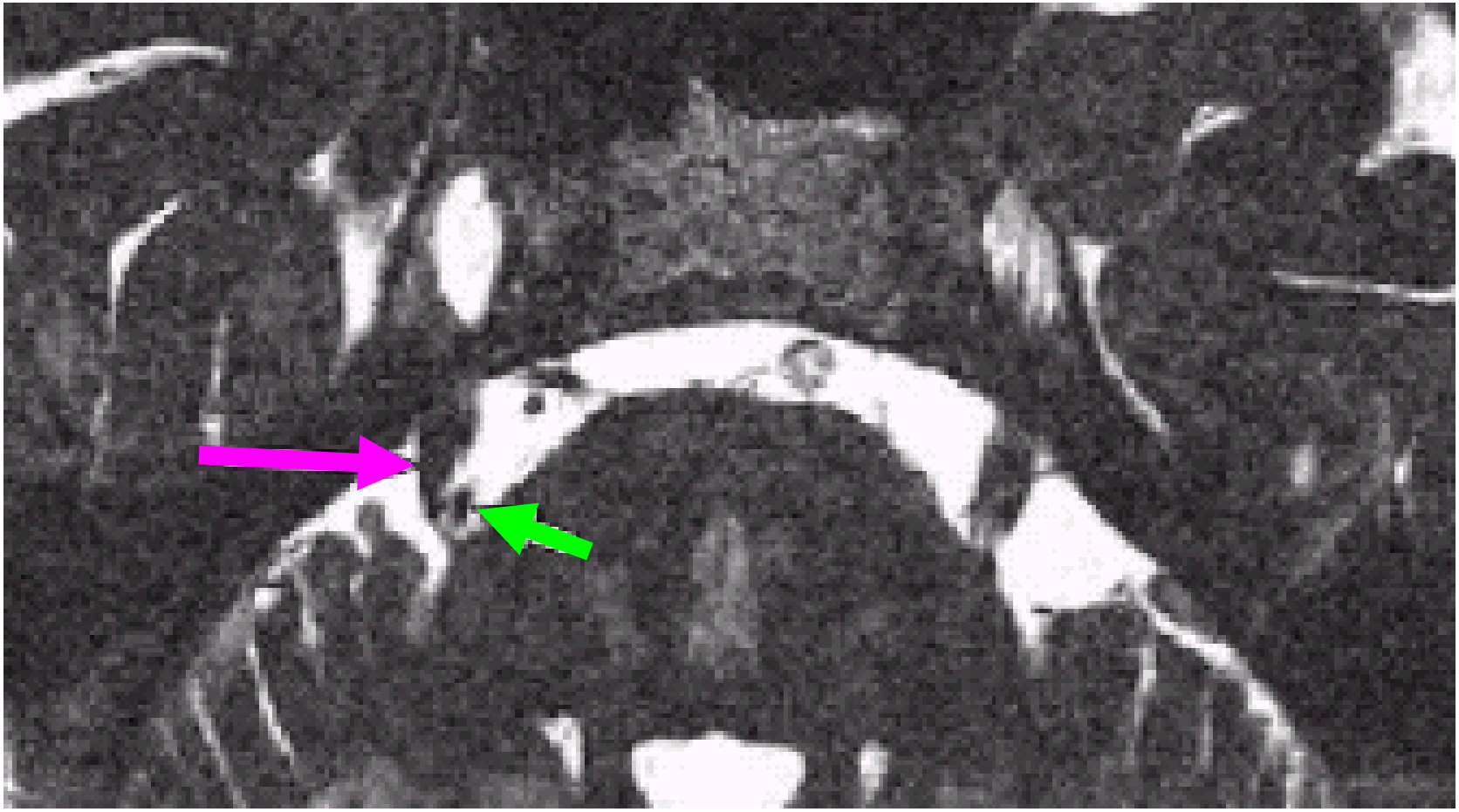


Right trigemi-nal nerve

Left vertebral artery

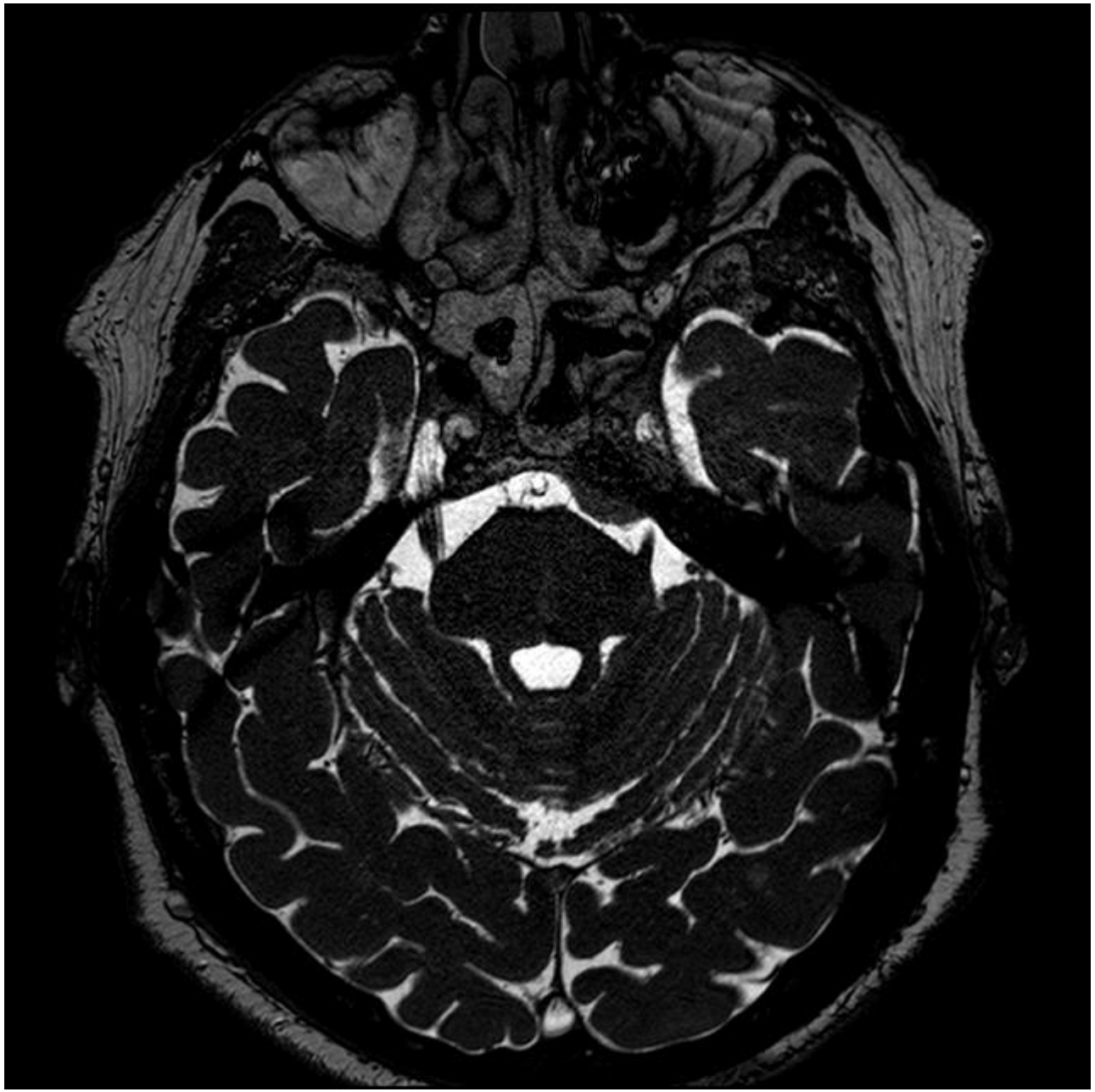
Right vertebral artery

MRI



Superior cerebellar artery (**short arrow**) compresses trigeminal nerve (**long arrow**)

T2



Management
Summary

- Primarily prophylactic pharmacological treatment with anti-epileptics
- Simple analgesics and opioids usually have no effect
- In case of acute aggravation, attacks may be interrupted with fosphenytoin infusion
- In case of unsatisfactory effect from medical treatment, early surgical therapy should be considered
- Microvascular decompression, percutaneous procedures on the Gasserian ganglion or gamma knife may be considered