



Headache and facial pain Attributable to cranial and cervical disorders

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Agenda

Types Headache
and facial pain
related to cranial
and cervical
disorders

Approach to
diagnosis

Management

Cases discussion

Clinic 2023



ICHD3: Headache or facial pain attributed to a disorder of the cranium, neck, eyes, ears, nose, sinuses, teeth, mouth or other facial or cervical structure

Headache attributed to a disorder of the cranial bone

Headache attributed to a disorder of the neck- cervicogenic headache, cranio cervical dystonia

Headache attributed to temporomandibular disorder

Headache related to the stylohyoid ligament

Headache attributed to the nose or paranasal sinuses

Headache attributed to a disorder of the eyes

Headache attributed to a disorder of the ears





Headache attributed to a disorder of the neck ICHD3

- 11.2.1 cervicogenic headache
- 11.2.2 Headache attributed to retropharyngeal tendonitis
- 11.2.3 Headache attributed to cervical dystonia

Headache attributed to a disorder of the neck

Headache attributed to a disorder of the neck ICHD3

11.2.1 Cervicogenic headache

A. Any headache fulfilling criterion C

B. Clinical and/or imaging evidence¹ of a disorder or lesion within the cervical spine or soft tissues of the neck, known to be able to cause headache

c. Evidence of causation demonstrated by at least two of the following:

1.headache has developed in temporal relation to the onset of the cervical disorder or appearance of the lesion

2.headache has significantly improved or resolved in parallel with improvement in or resolution of the cervical disorder or lesion

3.cervical range of motion is reduced and headache is made significantly worse by provocative manoeuvres

4.headache is abolished following diagnostic blockade of a cervical structure or its nerve supply

D. Not better accounted for by another ICDH3 diagnosis

Cervicogenic headache

- Unilateral headache
- Associated ipsilateral shoulder pain with or without radicular involvement
- Provocation by neck movement, head movement or touching tender points in the head and neck
- Reduced range of neck movement
- Difficulty swallowing or dizziness
- Facial pain
- Migrainous or autonomic features can occur.

Antonaci F, Bono G, Chimento P. Diagnosing cervicogenic headache. J Headache Pain. 2006 Jun;7(3):145-8.

Vingen VJ, Stovner LJ (1998) Photophobia and phonophobia in tension-type headache and cervicogenic headache. Cephalalgia 18:313–318



Epidemiology

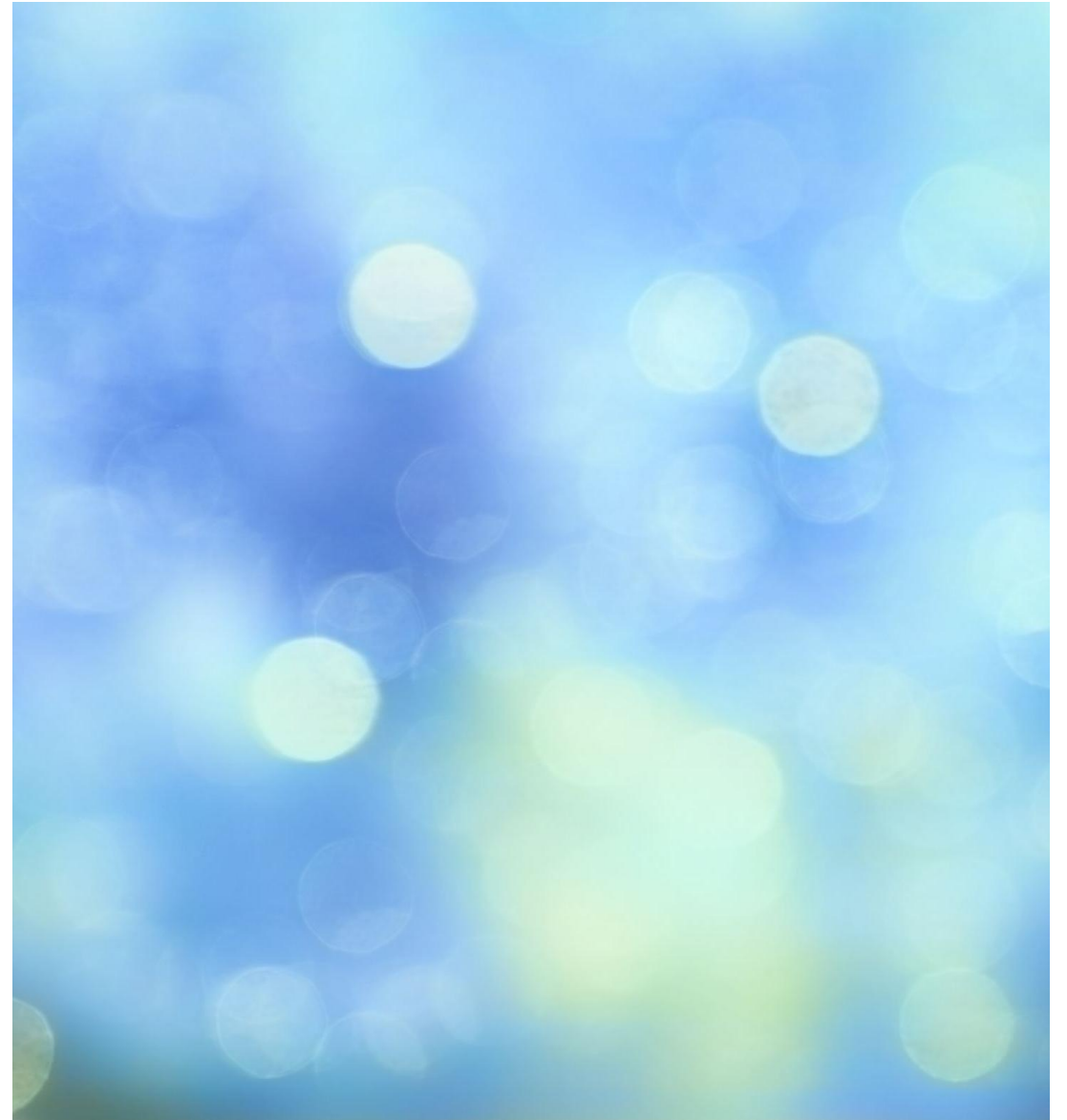
Prevalence of 4.1%

Female/male ratio 1.06

Mean age of symptom onset 30 years.

Mean onset of presentation 49 years

53% of patients with headache after whiplash injury

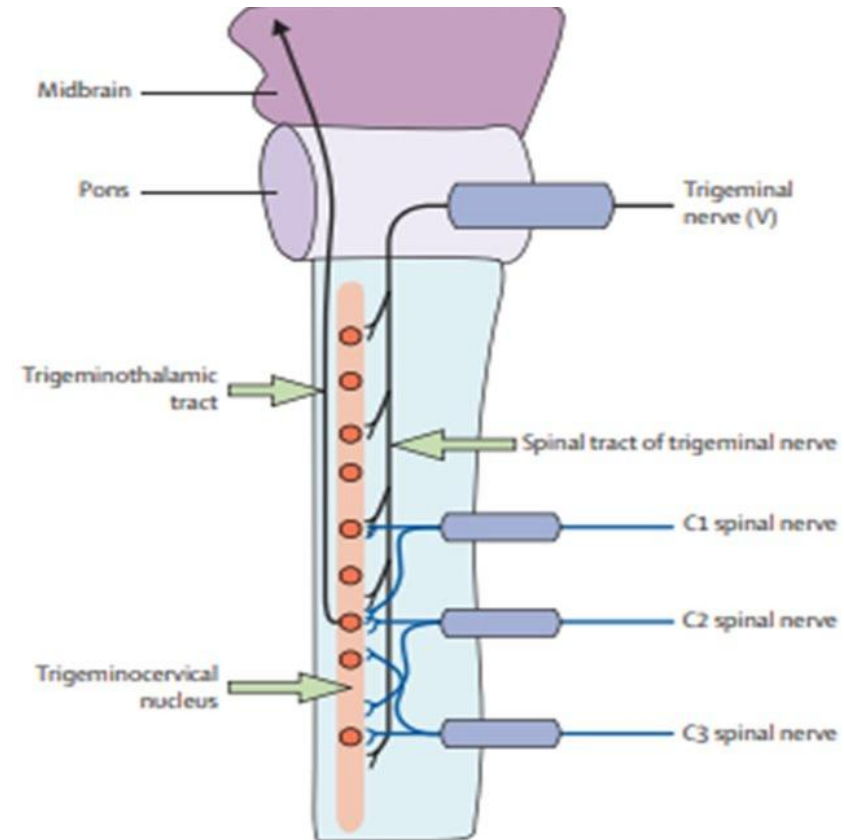
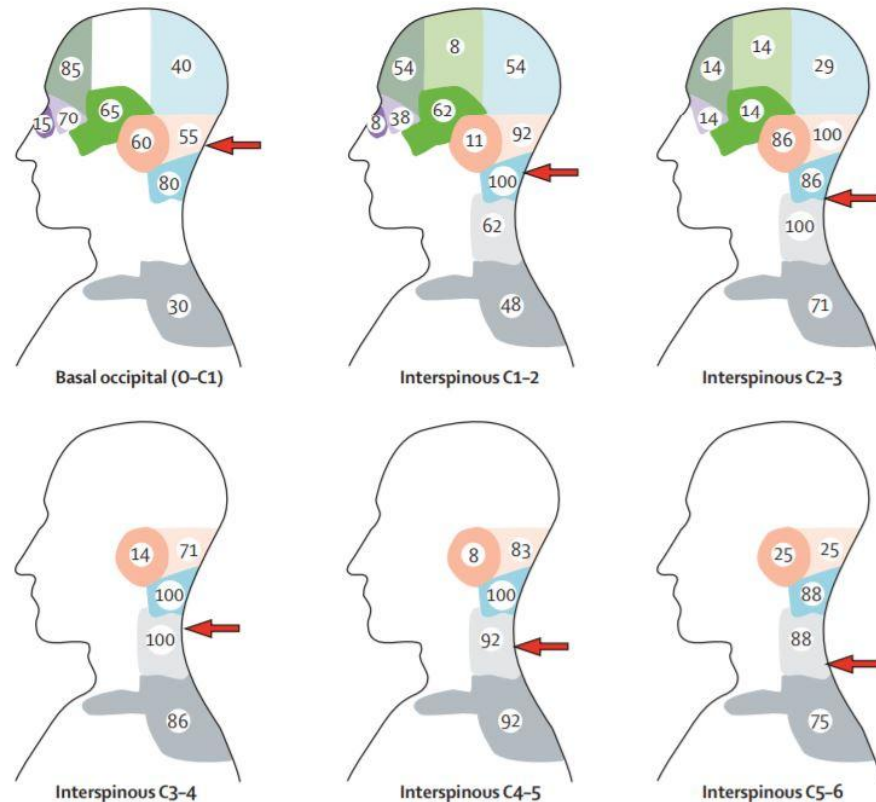


Sjaastad O. Cervicogenic headache: comparison with migraine without aura; Vågå study. Cephalalgia. 2008 Jul;28 Suppl 1:18-20.

Fredriksen TA, Hovdal H, Sjaastad O. "Cervicogenic headache": clinical manifestation. Cephalalgia. 1987 Jun;7(2):147-60.

Becker, W.J. (2010), Cervicogenic Headache: Evidence That the Neck is a Pain Generator. Headache: The Journal of Head and Face Pain, 50: 699-705.

Pathophysiology and referred pain patterns



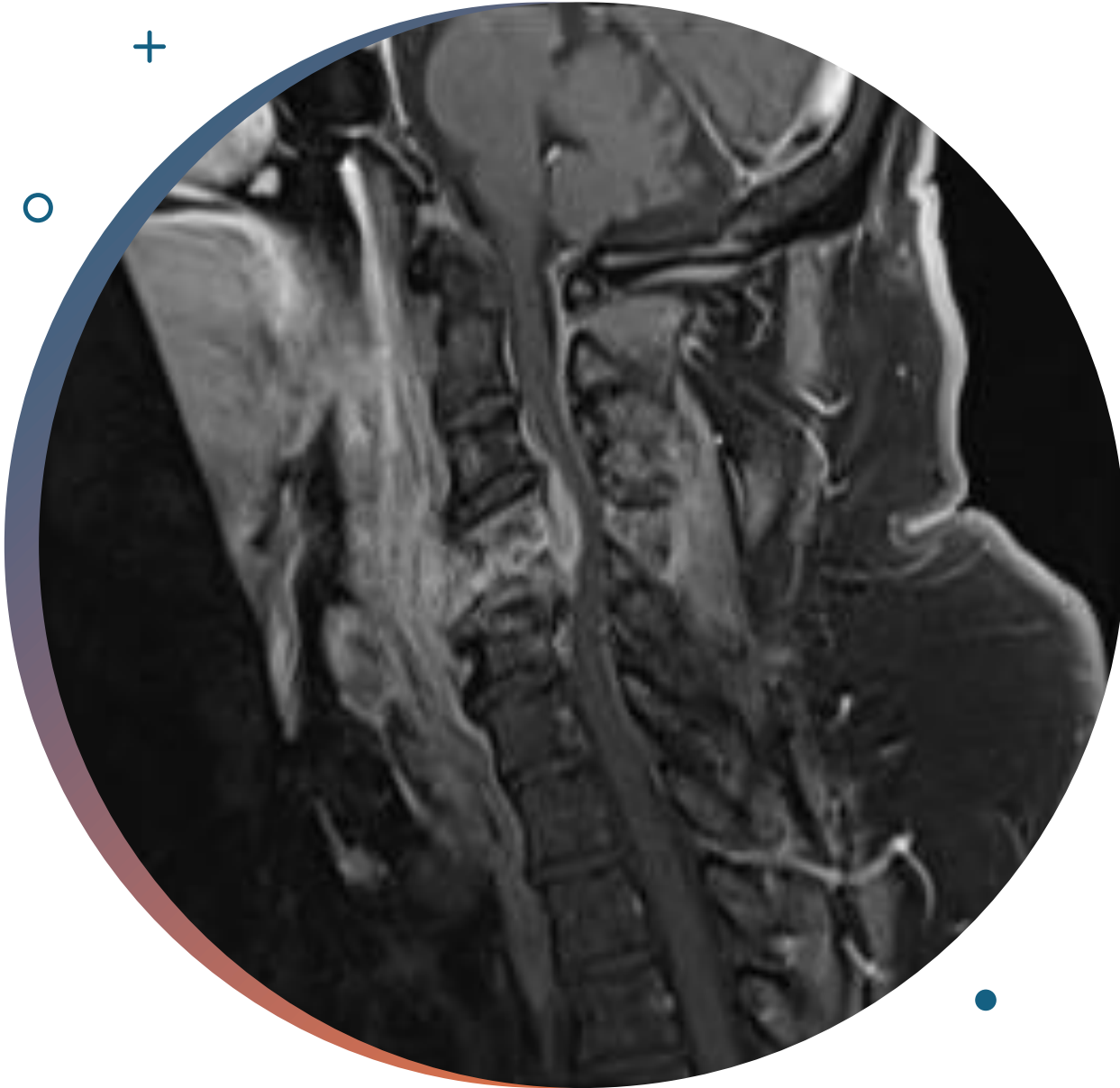
1. Bogduk N, Govind J. Cervicogenic headache: an assessment of the evidence on clinical diagnosis, invasive tests, and treatment. *Lancet Neurol*. 2009 Oct;8(10):959-68.
2. Sjaastad O, Fredriksen TA, Pfaffenrath V. Cervicogenic headache: diagnostic criteria. *Headache* 1990; 30:725-6.
3. Maigne R. Signes cliniques des céphalées cervicales; leur traitement. *Méd et Hyg* 1981; 39:1174-85
4. Jaeger B. Are "cervicogenic" headaches due to myofascial pain and cervical spine dysfunction? *Cephalalgia* 1989; 9:157-64.
4. Fredriksen TA, Hovdal H, Sjaastad O. "Cervicogenic headache": clinical manifestation. *Cephalalgia*. 1987 Jun;7(2):147-60.



Causes

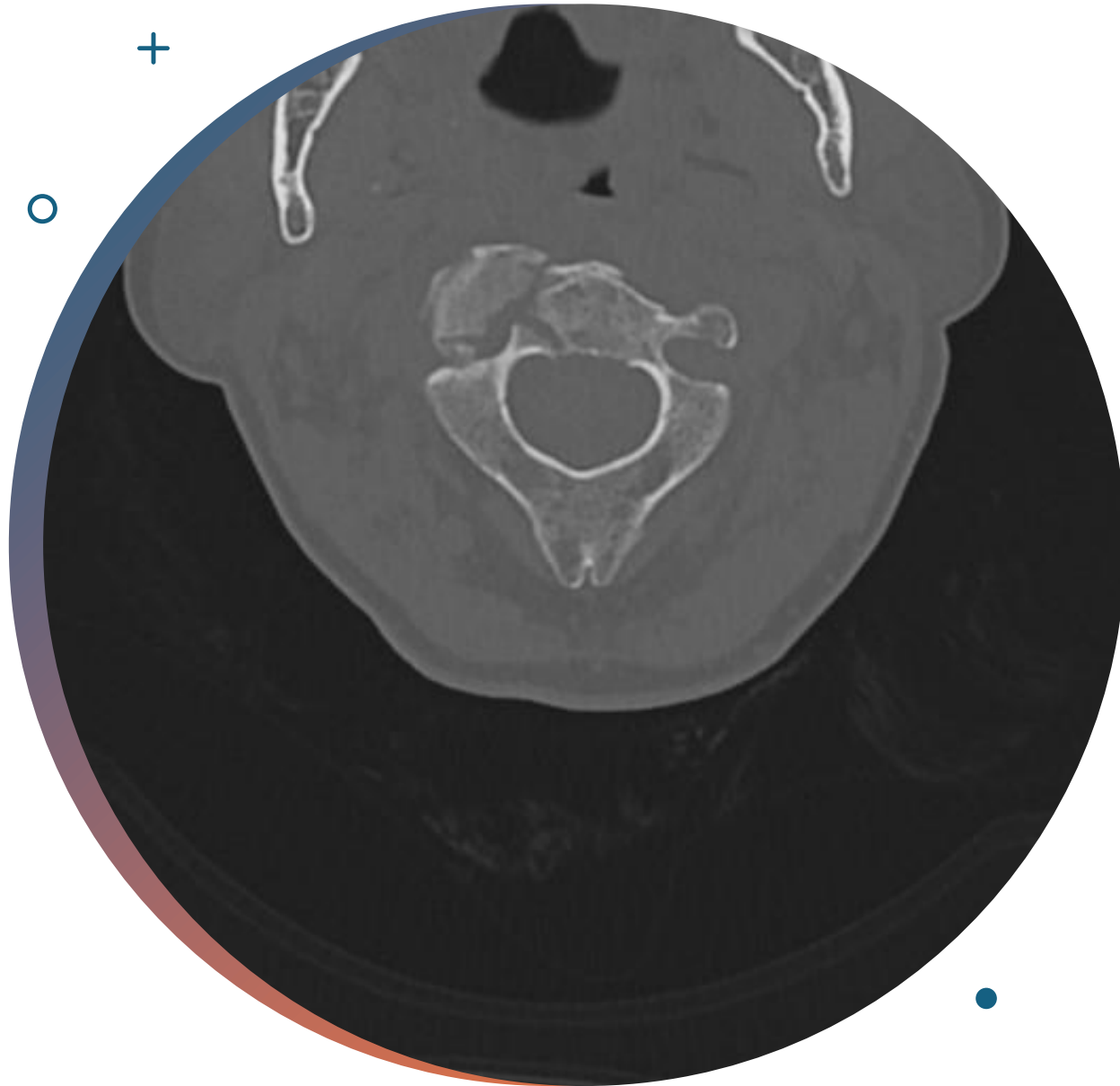
- Cervical disc disease- facet joint disease and spondylosis
- Infection
- Fracture
- Rheumatoid arthritis
- Tumour or metastases
- Whiplash injury

Young .Occipital Neuralgia and cervicogenic headache. Practical Neurology. May 2021.



MRI scan of cervical spine with contrast

Discitis of the cervical
spine



CT Cervical spine

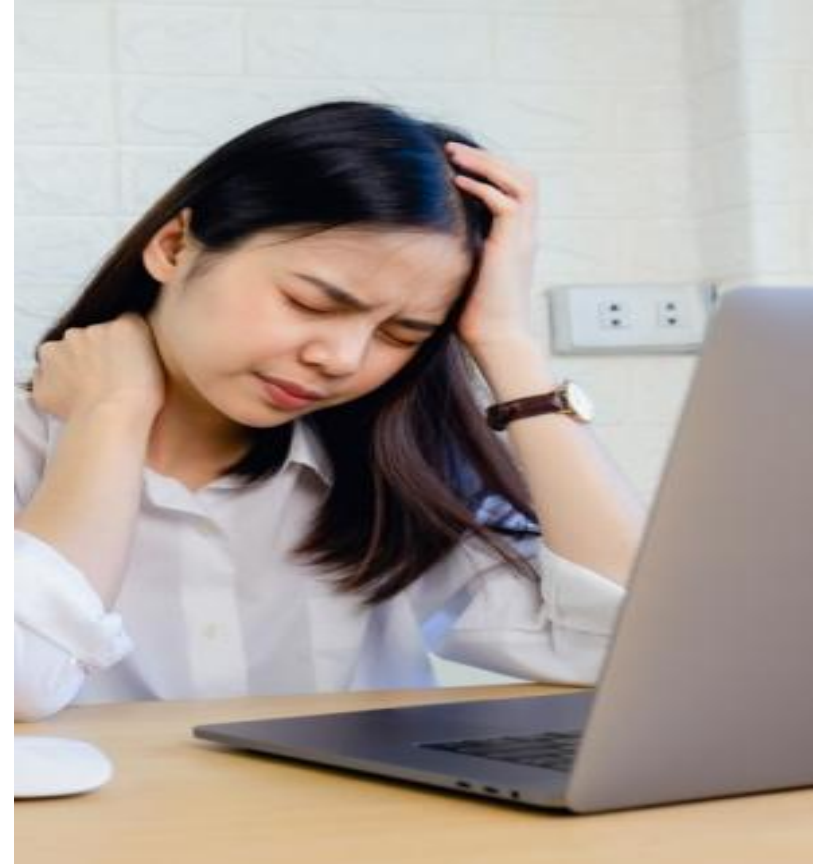
- Odontoid peg fracture



Radiological features

Imaging can be normal or have overlapping features with that seen in healthy individuals

1. Cervicogenic headache: an assessment of the evidence on clinical diagnosis, invasive tests, and treatment Bogduk, Nikolai et al. *The Lancet Neurology*, Volume 8, Issue 10, 959 – 96
2. Coskun O, Ucler S, Karakurum B, Atasoy HT, Yildirim T, Ozkan S, Inan LE. Magnetic resonance imaging of patients with cervicogenic headache. *Cephalalgia*. 2003 Oct;23(8):842-5.
3. Pfaffenrath V, Dandekar R, Pöllmann W. Cervicogenic headache—The clinical picture, radiological findings and hypothesis on its pathophysiology. *Headache* 1987; 27:495–9.



Triggers

Differential diagnosis

Primary headaches

- Migraine
- Tension type headache
- Hemicrania continua

Neuralgias and other secondary headaches

- Occipital neuralgia
- Neck-tongue syndrome
- Persistent idiopathic facial pain
- Trigeminal neuralgia
- TMJ dysfunction

Other secondary pathology

- Carotid or vertebral dissection
- Chiari malformation

Young. Occipital Neuralgia and cervicogenic headache. Practical Neurology. May 2021

Management

Non- pharmacological

- Pain education and self care, Physiotherapy and spinal manipulation, Transcutaneous TENS, massage, cool compress,

Pharmacological

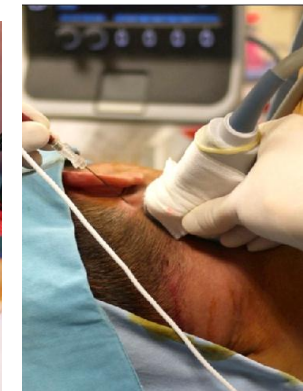
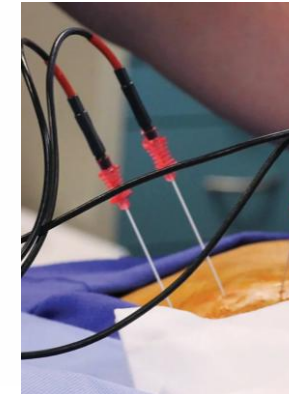
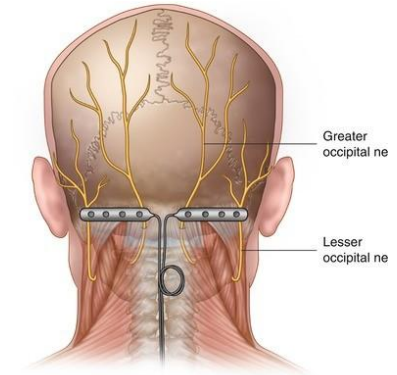
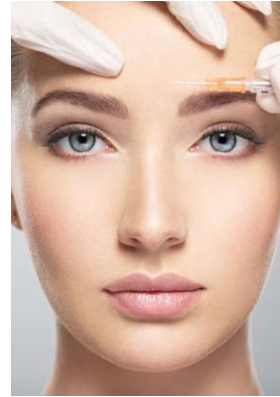
- NSAIDS, Amitriptyline, baclofen, Tizanidine, gabapentin, pregabalin, carbamazepine

1. Boudreau GP, Marchand L. Pregabalin for the Management of Cervicogenic Headache: A Double -Blind Study. *Canadian Journal of Neurological Sciences / Journal Canadien des Sciences Neurologiques*. 2014;41(5):603-610.
2. Sist TC, Filadora VA 2nd, Miner M, Lema M. Experience with gabapentin for neuropathic pain in the head and neck: report of ten cases. *Reg Anesth*. 1997 Sep-Oct;22(5):473-8
3. Moretti R, Antonello RM, Torre P, Cazzato G. Headache and neck pain: Gabapentin as a possible treatment. *J Headache Pain*. 2000 Dec;1(3):155-61
4. Saper JR, Lake AE 3rd, Cantrell DT, Winner PK, White JR. Chronic daily headache prophylaxis with tizanidine: a double-blind, placebo-controlled, multicenter outcome study. *Headache*. 2002 Jun;42(6):470-82.
5. Baclofen IV in the clinic: effective treatment for muscle spasm pain and migraines. Krusz, J. *The Journal of Pain*, Volume 14, Issue 4
6. Hering-Hanit R. Baclofen for prevention of migraine. *Cephalalgia*. 1999 Jul;19(6):589-91. Chaibi, A., Russell, M.B. Manual therapies for cervicogenic headache: a systematic review. *J Headache Pain* **13**, 351–359 (2012).
7. Nguyen JP, Nizard J, Kuhn E, Carduner F, Penverne F, Verleysen-Robin MC, Terreaux L, de Gaalon S, Raoul S, Lefaucheur JP. A good preoperative response to transcutaneous electrical nerve stimulation predicts a better therapeutic effect of implanted occipital nerve stimulation in pharmacologically intractable headaches. *Neurophysiol Clin*. 2016 Feb;46(1):69-75
8. Paolucci, T.; Agostini, F.; Paoloni, M.; de Sire, A.; Verna, S.; Pesce, M.; Ribecco, L.; Mangone, M.; Bernetti, A.; Saggini, R. Efficacy of TENS in Cervical Pain Syndromes: An Umbrella Review of Systematic Reviews. *Appl. Sci*. 2021, *11*, 3423



Interventional

- Greater occipital nerve block
- Onabotulinum toxin A
- Facet Joint, medial branch and third occipital nerve blocks
- Thermal radiofrequency ablation
- Pulsed Radiofrequency therapy
- Subcutaneous occipital nerve stimulation



1. Linde M, Hagenet al. Onabotulinum toxin A treatment of cervicogenic headache: a randomised, double-blind, placebo-controlled crossover study. *Cephalgia*. 2011 May;
2. Caponnetto V, Ornello R, Frattale I, Di Felice C, Pistoia F, Lancia L, Sacco S. Efficacy and safety of greater occipital nerve block for the treatment of cervicogenic headache: a systematic review. *Expert Rev Neurother*. 2021 May;21(5):591-597.
3. 45. Naja ZM, El-Rajab M, Al-Tannir MA, Ziade FM, Tawfik OM. Repetitive occipital nerve blockade for cervicogenic headache: expanded case report of 47 adults. *Pain Pract*. 2006;6(4):278-84.
4. Caponnetto V, Ornello R, Frattale I, Di Felice C, Pistoia F, Lancia L, Sacco S. Efficacy and safety of greater occipital nerve block for the treatment of cervicogenic headache: a systematic review. *Expert Rev Neurother*. 2021 May;21(5):591-597.
5. Zhou L, Hud-Shakoor Z, Hennessey C, Ashkenazi A. Upper cervical facet joint and spinal rami blocks for the treatment of cervicogenic headache. *Headache*. 2010 Apr;50(4):657-63.
6. Hamer JF, Purath TA. Response of cervicogenic headaches and occipital neuralgia to radiofrequency ablation of the C2 dorsal root ganglion and/or third occipital nerve. *Headache*. 2014;54(3):500-10.
7. Eghtesadi M, Leroux E, Fournier-Gosselin MP, Lespérance P, Marchand L, Pim H, Artenie AA, Beaudet L, Boudreau GP. Neurostimulation for Refractory Cervicogenic Headache: A Three-Year Retrospective Study. *Neuromodulation*. 2018 Apr;21(3):302-309.

Headache attributed to a disorder of the neck ICHD3

Headache attributed to cervical dystonia

A. Neck and posterior head pain fulfilling criterion c

B. Craniocervical dystonia is demonstrated by abnormal movements or defective posturing of the neck and/or head due to muscular hyperactivity

C. Evidence of causation demonstrated by at least two of the following:

1. Pain has developed in temporal relation to the onset of craniocervical dystonia

2. Pain has significantly worsened in parallel with progression of the craniocervical dystonia

3. Pain has significantly improved or resolved in parallel with improvement in or resolution of the craniocervical dystonia

D. Pain in location corresponds to the location of the dystonic muscle(s)

Clinical features

- Comorbid headache in 75% of patients with cervical dystonia
- Unilateral and occipital pain
- Ipsilateral to the side of head rotation



Ryoichi Inoue, Kenneth Dalton, Nawaz Hack, and Virginia Baker. (2023, April 22–27). *Cervical Dystonia in a Headache Population: General Medical Education (GME) Training to Standardize Screening* [Conference presentation, P11-12.005]. American Academy of Neurology (AAN) 2023 Annual Meeting, Boston, MA

Reichel G. Botulinumtoxin in der Therapie schmerzhafter fokaler und segmentaler Dystonien. In: Göbel H, ed. *Botulinum toxin A in der speziellen Schmerztherapie*. Uni-Med-Verlag: Bremen, 2004.

Ryoichi Inoue, Kenneth Dalton, Nawaz Hack, and Virginia Baker. (2023, April 22–27). *Cervical Dystonia in a Headache Population: General Medical Education (GME) Training to Standardize Screening* [Conference presentation, P11-12.005]. American Academy of Neurology (AAN) 2023 Annual Meeting, Boston, MA

Management of headache related to dystonia

- Physiotherapy
- Pharmacological agents- tetrabenazine, baclofen, tizanidine,, clonazepam, trihexyphenidyl, gabapentin, levodopa in dopa responsive dystonia
- Botulinum toxin
- Deep brain stimulation

1.Eugenio Ramalho Bezerra M, Sampaio Rocha-Filho PA. Headache attributed to craniocervical dystonia: A prospective cohort study. *Eur J Pain*. 2020; 24: 1484–1494.

2.LiBilateral globus pallidus internus (GPI) deep brain stimulation for cervical dystonia: Effects on motor and non-motor symptoms within 5 years follow Khanom, Anjum Aarifa et al.

3.Eugenio Ramalho Bezerra M, Sampaio Rocha-Filho PA. Headache attributed to craniocervical dystonia: A prospective cohort study. *Eur J Pain*. 2020 Sep;24(8):1484-1494.

4.Winner PK, Sadowsky CH, Martinez WC, Zuniga JA, Poulette A. Concurrent onabotulinumtoxinA treatment of cervical dystonia and concomitant migraine. *Headache*. 2012 Sep;52(8):1219-25

5.Lorentz IT, Subramaniam SS, Yiannikas C. Treatment of idiopathic spasmodic torticollis with botulinum toxin A: a double-blind study on twenty-three patients. *Mov Disord* 1991;6:145–150

Tsui JKC, Eisen A, Stoessl AJ, et al. Double blind study of botulinum toxin in spasmodic torticollis. *Lancet* 1968;II:245–247.

Headache attributed to TMJ dysfunction ICHD3

A. Any headache fulfilling criterion c

B. Clinical evidence of a painful pathological process involving the Temporomandibular joint , muscles of mastication and/or associated structures on both sides

C.Evidence of causation demonstrated by at least two of the following

1. The headache has developed in temporal relation to the onset of the TMJ disorder or lead to it's discovery

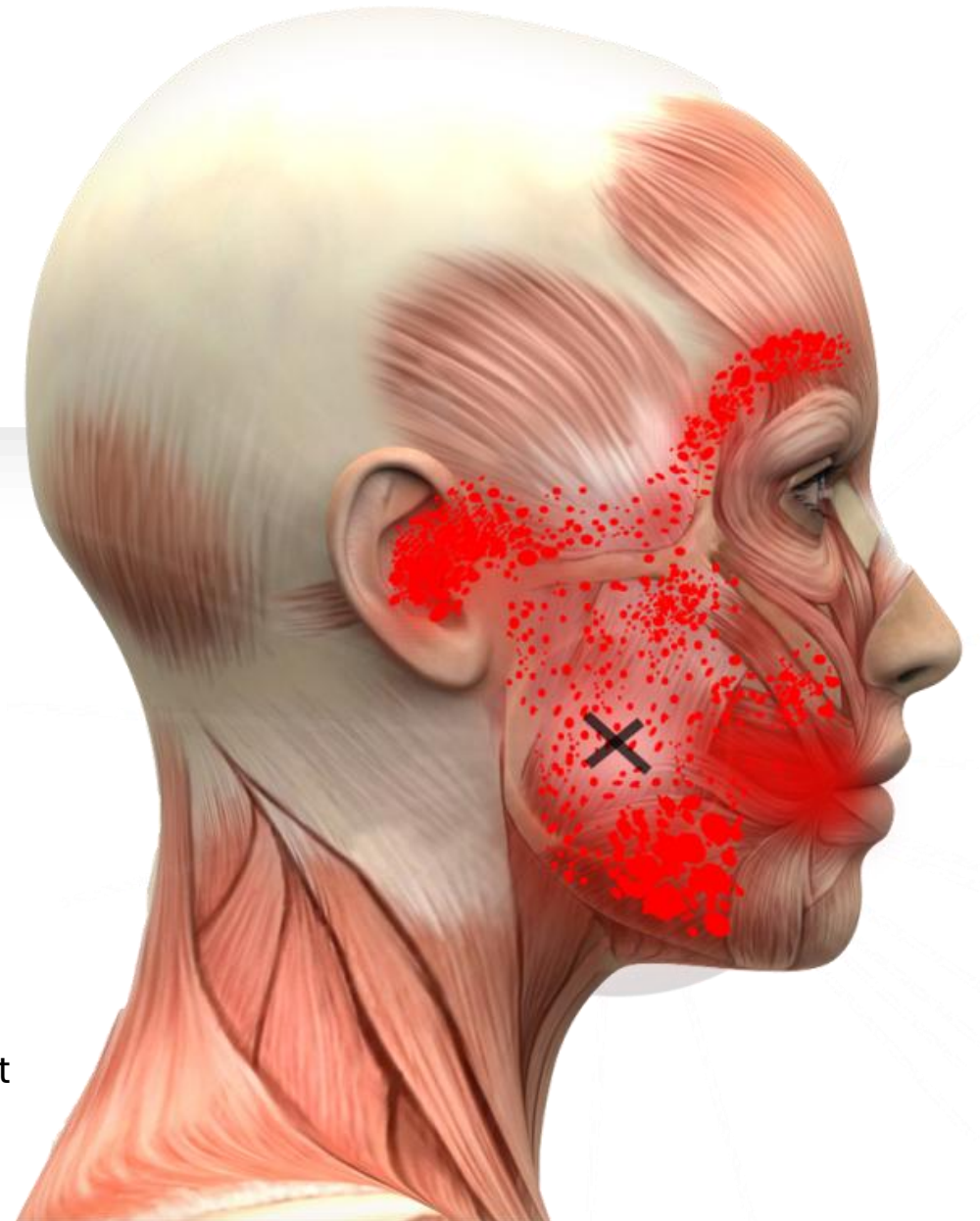
2. The headache is aggravated by jaw motion, jaw function (chewing), and/or jaw parafunction (bruxism)

3. The headache is provoked on physical examination by temporalis muscle palpation and/or passive movement of the jaw

d. Not better accounted for by another ICDH3 diagnosis.

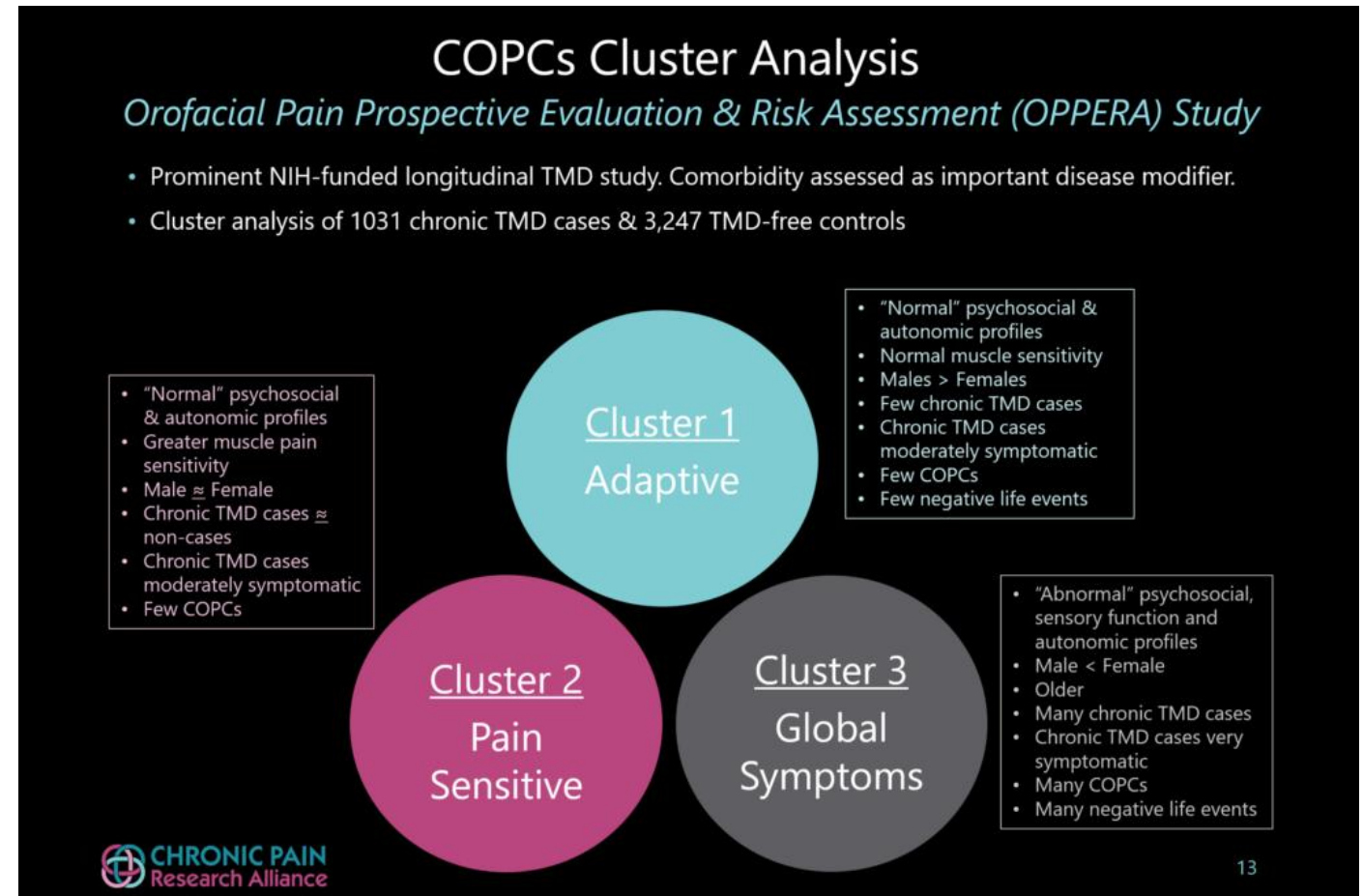
Clinical features of Temporomandibular disorders

- Frontotemporal and bilateral location
- Pressing and tightening quality
- Associated masticatory myofascial facial pain-ear ,face, eye ,teeth
- Provocation on jaw movement or palpation of the temporalis muscle
- Aggravated by eating, talking, yawning
- History of jaw clenching or bruxism
- Jaw pain, Limited jaw movement and clicking of jaw on movement



Aetiology and risk factors

- Trauma
- Disc displacement
- Occlusal changes
- Parafunction
- Anatomical genotype
- Female sex (4:1)
- Psychosocial factors

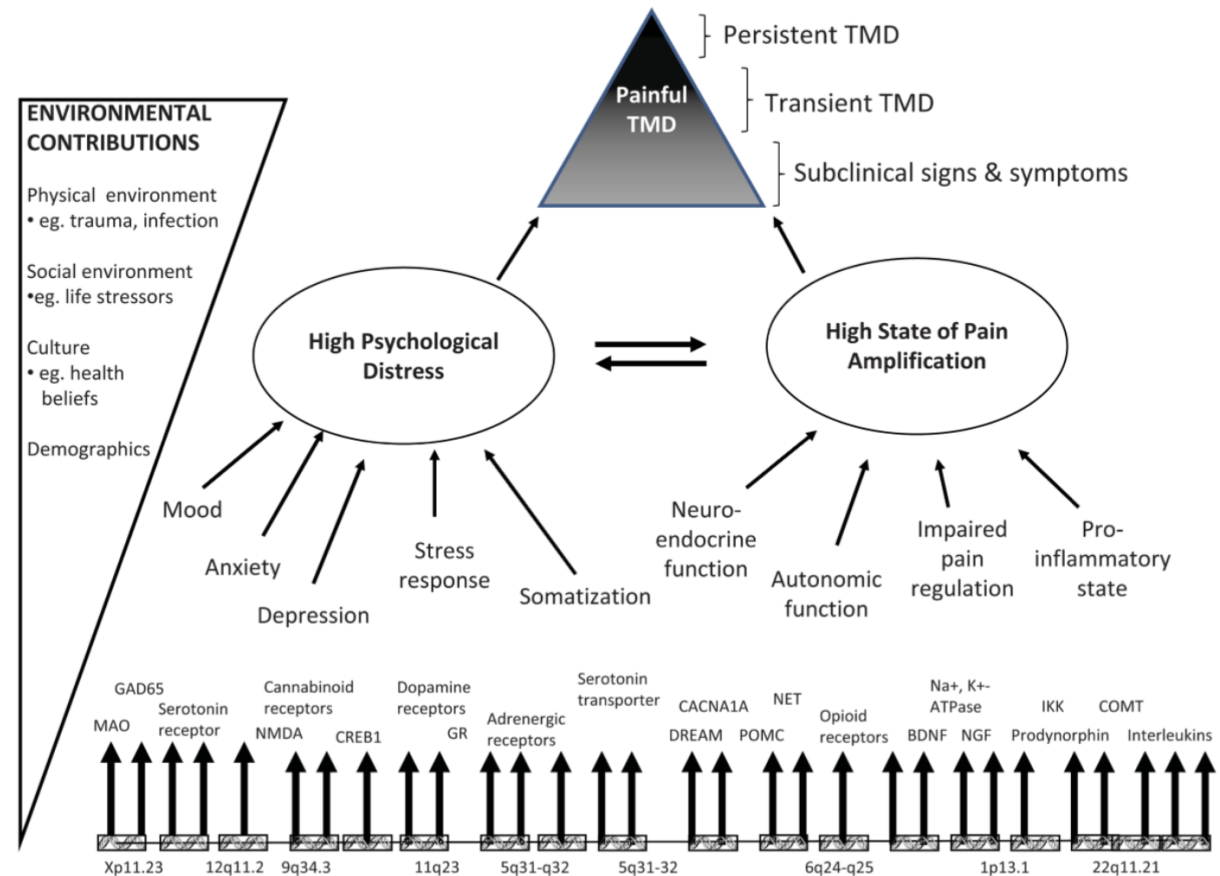


. Fillingim RB, Ohrbach R, Greenspan JD, et al. Psychological factors associated with development of TMD: The OPFERA prospective cohort study. *J Pain* 2013; 14: T75–90

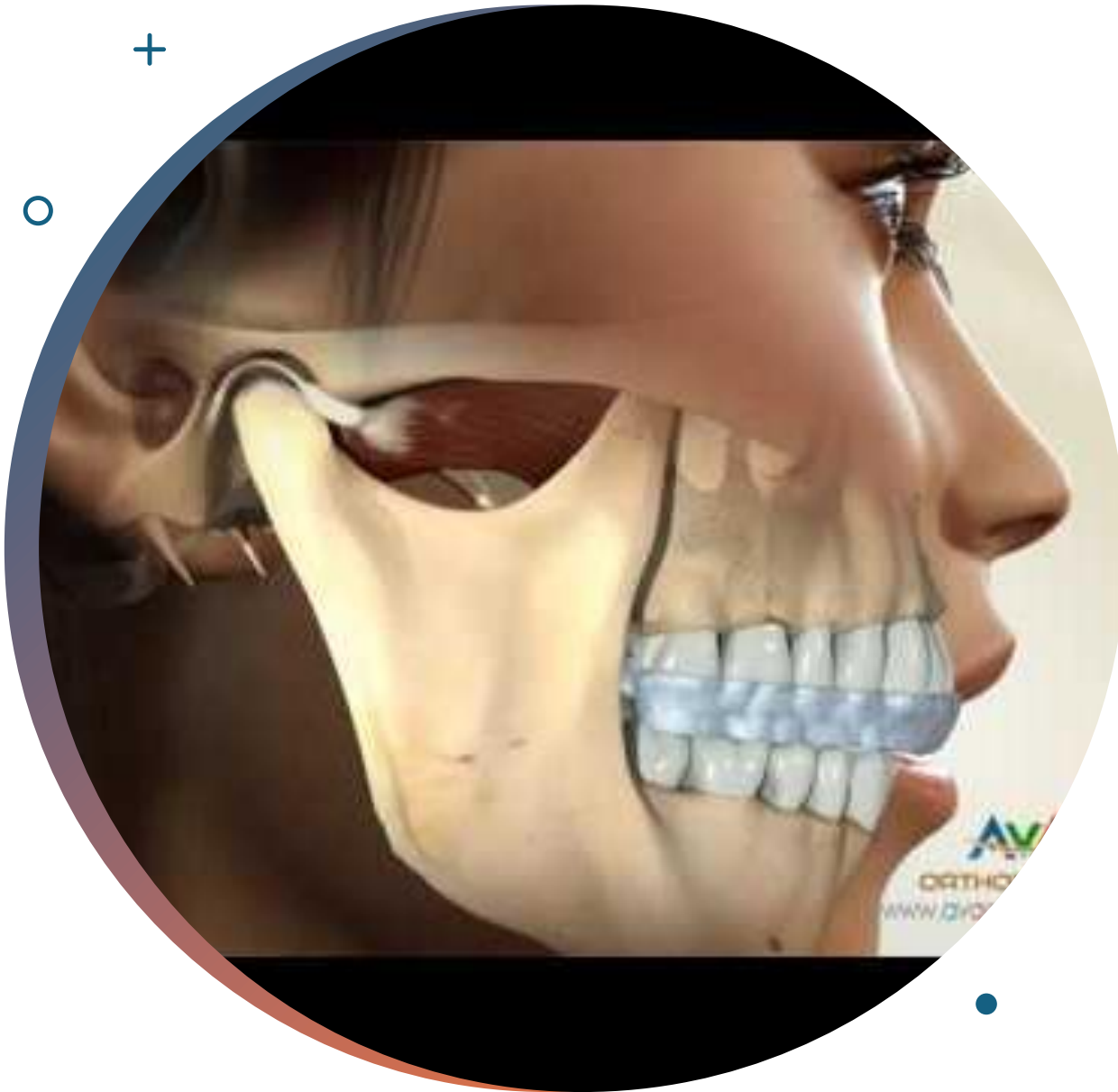
Temporomandibular disorders: Old ideas and new concepts. *Cephalgia*. 2017;37(7):692-704

Velly AM, Look JO, Carlson C, et al. The effect of catastrophizing and depression on chronic pain – a prospective cohort study of temporomandibular muscle and joint pain disorders. *Pain* 2011; 152: 2377–2383.

Oral facial pain: Prospective evaluation and risk assessment (OPPERA)



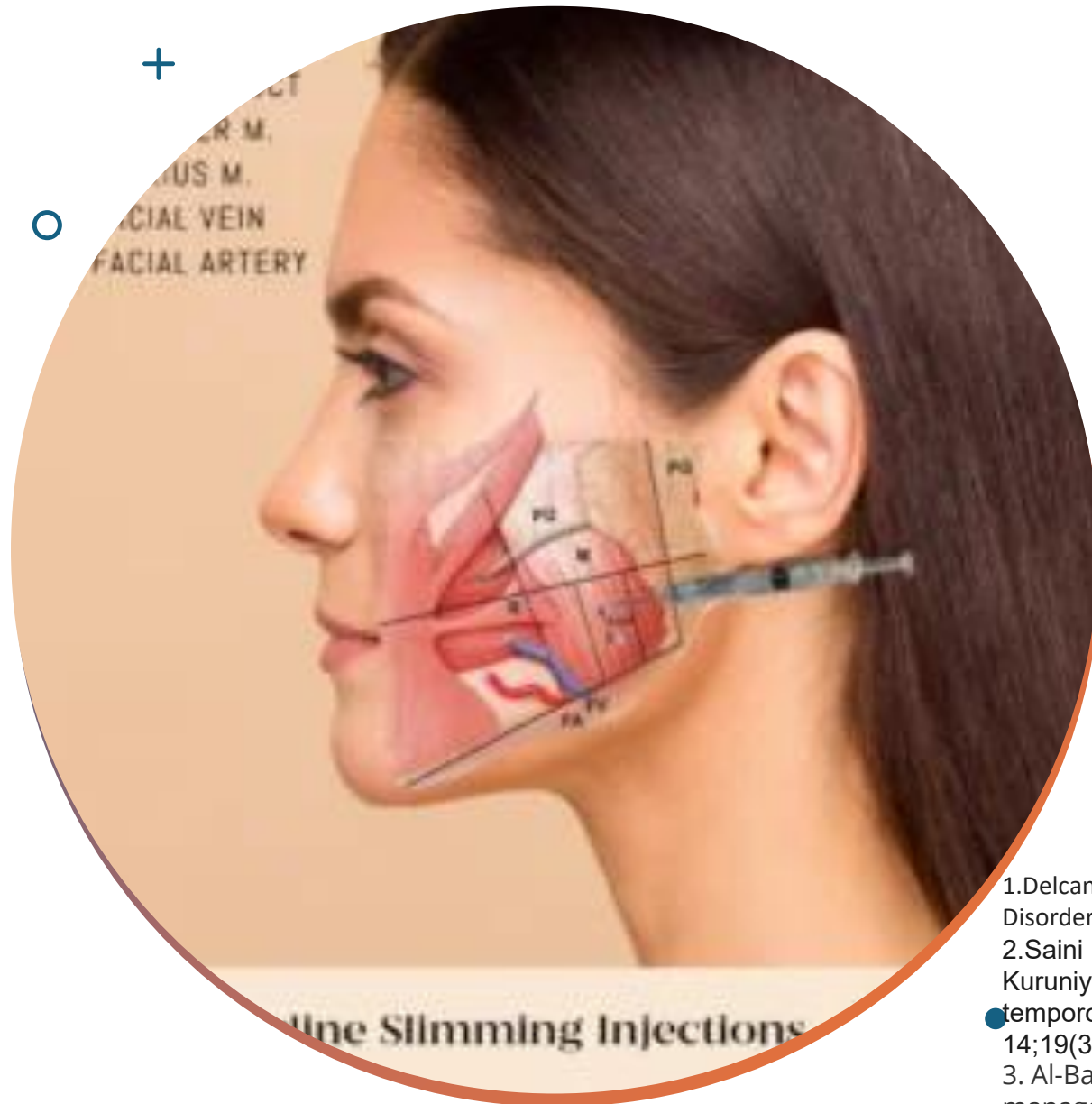
Fillingim RB, Ohrbach R, Greenspan JD, et al. Psychological factors associated with development of TMD: The OPPERA prospective cohort study. *J Pain* 2013; 14: T75-90



Treatment

- Behavioral therapies including Cognitive behavioral therapy, habit reversal, biofeedback counselling and relaxation techniques
- Physical therapy- jaw exercises
- Acupuncture
- Occlusive appliances

1. Aggarwal VR, Lovell K, Peters S, et al. Psychosocial interventions for the management of chronic orofacial pain. *Cochrane Database Syst Rev* 2011; 11: CD008456–CD00845681.
2. Story WP, Durham J, Al-Baghdadi M, et al. Self-management in temporomandibular disorders: A systematic review of behavioural components. *J Oral Rehabil* 2016; 43: 929–936
3. . Feine JS, Lund JP. An assessment of the efficacy of physical therapy and physical modalities for the control of chronic musculoskeletal pain. *Pain* 1997; 71: 5–23.
4. Cho SH, Whang WW. Acupuncture for temporomandibular disorders: A systematic review. *J Orofac Pain* 2010; 24: 152–162.



Treatment

Pharmacological

- Non-steroidal anti-inflammatory drugs, Paracetamol, diazepam, glucocorticoids, tricyclic antidepressants, SNRI, antiseizure medications e.g gabapentin

Interventional

- Local anaesthetic injections
- Botox
- Intraarticular injection (Steroid or hyaluronic acid)
- Surgery- arthroscopic surgery, open surgery and arthrocentesis

1. Delcanho R, Val M, Guarda Nardini L, Manfredini D. Botulinum Toxin for Treating Temporomandibular Disorders: What is the Evidence? *J Oral Facial Pain Headache*. 2022 Winter;36(1):6-20.
2. Saini RS, Ali Abdullah Almoyad M, Binduhayyim RIH, Quadri SA, Gurumurthy V, Bavabeedu SS, Kuruniyan MS, Naseef PP, Mosaddad SA, Heboyan A. The effectiveness of botulinum toxin for temporomandibular disorders: A systematic review and meta-analysis. *PLoS One*. 2024 Mar 14;19(3)
3. Al-Baghdadi M, Durham J, Araujo-Soares V, et al. TMJ disc displacement without reduction management: A systematic review. *J Dent Res* 2014; 93: 37S-51S
4. Beecroft et al. Management of Painful temporomandibular disorder in adults. NHS England getting it right first time and Royal college of surgeon's faculty of dental surgery

11.8 headache or facial pain attributed to inflammation of the stylohyoid ligament ICHD3 criteria.

A. Any head, neck, pharyngeal and/or facial pain fulfilling criterion C¹

B. Radiological evidence of calcified or elongated stylohyoid ligament

C. Evidence of causation demonstrated by at least two of the following:

1. Pain is provoked or exacerbated by digital palpation of the stylohyoid ligament

2. pain is provoked or exacerbated by head turning

3. pain is significantly improved by injection of local anaesthetic agent into the stylohyoid ligament, or by styloidectomy

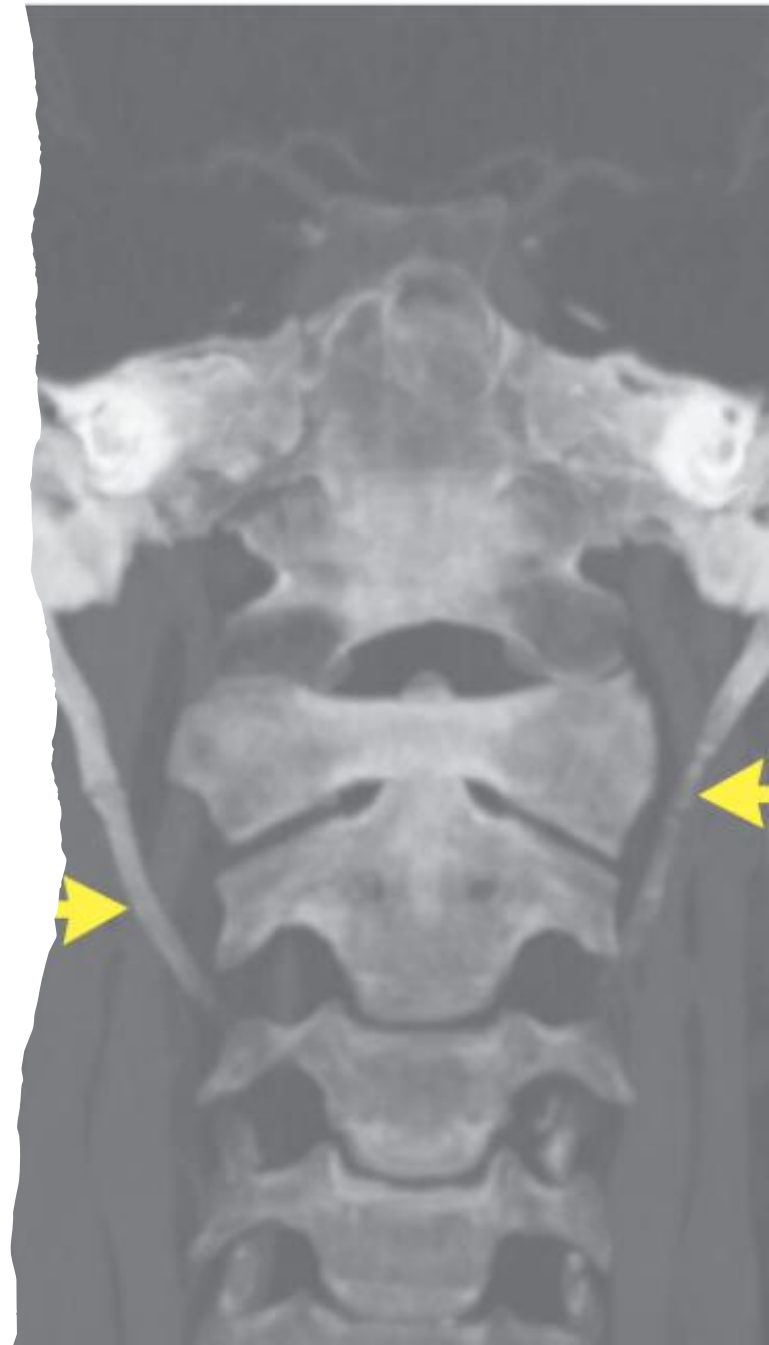
4. pain is ipsilateral to the inflamed stylohyoid ligament

Not better accounted for by another ICHD-3 diagnosis

Eagle syndrome

- Unilateral pain in the oropharynx, face and earlobe
- Exacerbation by turning the head and neck
- Elongated styloid process or ossification of the stylohyoid ligament (Caution found incidentally in 28% of population)

Eagle's Syndrome. Firat Elmas, Bikash L. Shrestha. The New England Journal of Medicine. Massachusetts Medical Society. Sep 28, 2017
Swain BP, Vidhya S, Kumar S. Eagle's Syndrome Managed Successfully by Pulsed Radiofrequency Treatment. Cureus. 2020 Sep 21;12(9):
Zeckler SR, Betancur AG, Yaniv G. The eagle is landing: Eagle syndrome--an important differential diagnosis. Br J Gen Pract. 2012 Sep;62(602):501-2





Types

- Classical-Symptoms due to compression of cranial nerve V, V11,1X,X
- Vascular- compression of internal or external carotid artery or parasympathetic fibres

Symptoms

- Throat and neck pain
- Dysphagia
- Sensation of foreign body in the throat or odynophagia
- Cranial neuropathies
- Headache
- Otalgia
- Cervical and facial pain
- TIA, syncope, dizziness, Stroke, dissection



Aldelaimi TN, Boskani SW, Ali SM, Mahmud PK. Eagle Syndrome: An Unusual Cause Limited Mouth Opening and Surgical Management. *J Craniofac Surg*. 2017 May;28(3):e214-e216.

Kumar, A. N., Kumar, B., Dua, G., & Mehta, S. (2017). A rare case report of Eagle's syndrome complicated with chronic mouth opening, its management and complete rehabilitation; dental perspective. *International Journal of Otorhinolaryngology and Head and Neck Surgery*, 4(1), 297–300.

Hassani M, Grønlund EW, Albrechtsen SS, Kondziella D. Neurological phenotypes and treatment outcomes in Eagle syndrome: systematic review and meta-analysis. *PeerJ*. 2024 Jun 26;12:

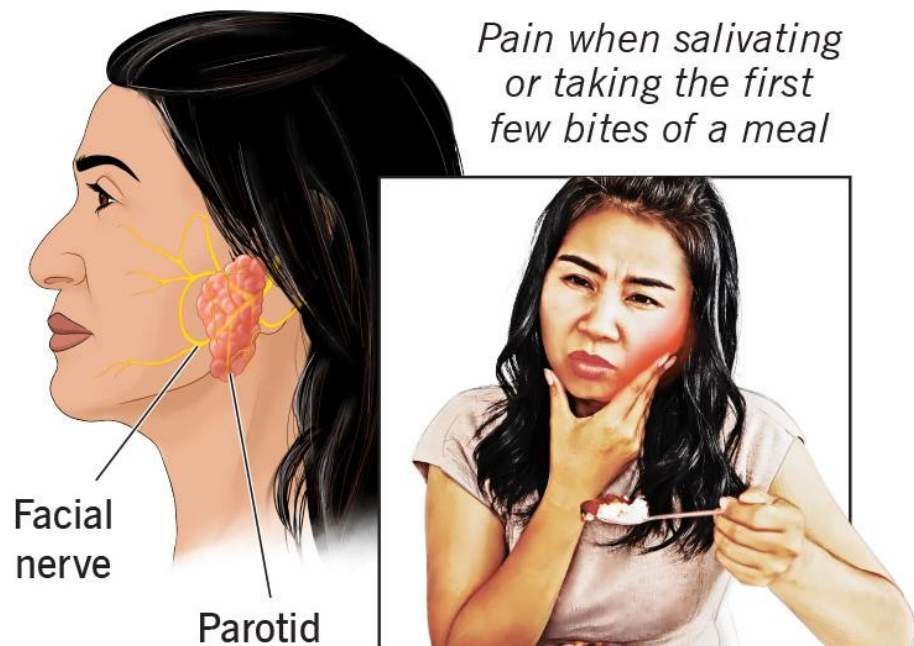


Differential diagnosis

- Neuralgias- glossopharyngeal, trigeminal, auriculotemporal, nervus intermedius
- Persistent idiopathic facial pain
- Temporomandibular disorder
- Cervicogenic headache
- Primary headache disorders- migraine and cluster headache
- Temporal arteritis
- Other secondary disorders of the tonsils, oropharynx, salivary glands

First Bite Syndrome

*Pain when salivating
or taking the first
few bites of a meal*



Shin JH, Herrera SR, Eboli P, Aydin S, Eskandar EH, Slavin KV. Entrapment of the glossopharyngeal nerve in patients with Eagle syndrome: surgical technique and outcomes in a series of 5 patients. *J Neurosurg.* 2009 Dec;111(6):1226-30. Steel SJ, Robertson CE. First Bite Syndrome: What Neurologists Need to Know. *Curr Pain Headache Rep.* 2021 Mar 24;25(5):31. dHaneda M, Okamoto I, Shimizu A, Arai S, Yamakura T, Yunaiyama D, Tsukahara K. Parotid Gland Cancer With First Bite Syndrome Detected via CT-Guided Fine Needle Aspiration Cytology. *In Vivo.* 2024 May-Jun;38(3):1454-1458.

Treatment (Pharmacological)

Non -steroidal anti-inflammatory drugs

Antidepressants-amitriptyline

Carbamazepine

Gabapentin

Pregabalin,

Sodium valproate

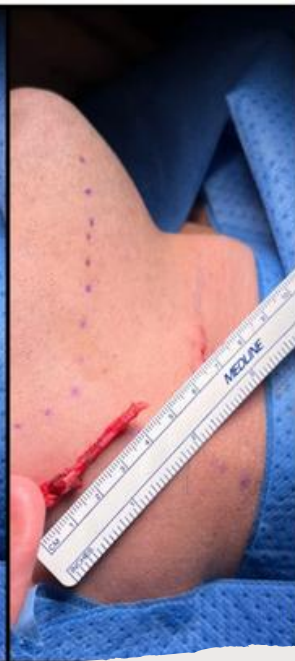
Corticosteroids

Simple analgesics

benzodiazepines

Antiplatelets and anticoagulants (vascular eagle syndrome)





Interventional

- Styloidectomy- Transcervical or transoral
- Carotid artery or jugular vein stenting, thrombectomy, carotid endarterectomy
- Glossopharyngeal nerve block followed by Pulsed radiofrequency treatment

Hassani M, Grønlund EW, Albrechtsen SS, Kondziella D. Neurological phenotypes and treatment outcomes in Eagle syndrome: systematic review and meta-analysis. PeerJ. 2024 Jun 26;12:

Swain BP, Vidhya S, Kumar S. Eagle's Syndrome Managed Successfully by Pulsed Radiofrequency Treatment. Cureus. 2020 Sep 21;12(9):

Headache attributed to a disorder of the sinuses

ICHD3

Headache caused by acute rhinosinusitis and associated with other symptoms and/or clinical signs of this disorder.

A. Any headache fulfilling criterion C

B. Clinical, nasal endoscopic and/or imaging evidence of acute rhinosinusitis

C. Evidence of causation demonstrated by at least two of the following:

1.headache has developed in temporal relation to the onset of rhinosinusitis

2.either or both of the following:

a. headache has significantly worsened in parallel with worsening of the rhinosinusitis

b. headache has significantly improved or resolved in parallel with improvement in or resolution of the rhinosinusitis

3. Headache is exacerbated by pressure over the paranasal sinuses

4.In the case of a unilateral rhinosinusitis, headache is localized and ipsilateral to it

Headache attributed to chronic or recurring rhinosinusitis

A. Any headache fulfilling criterion C

B. Clinical, nasal endoscopic and/or imaging evidence of current or past infection or other inflammatory process within the paranasal sinuses

C. Evidence of causation demonstrated by at least two of the following:

1.headache has developed in temporal relation to the onset of chronic rhinosinusitis

2.headache waxes and wanes in parallel with the degree of sinus congestion and other symptoms of the chronic rhinosinusitis

3.headache is exacerbated by pressure applied over the paranasal sinuses

4.In the case of a unilateral rhinosinusitis, headache is localized and ipsilateral to it



Clinical features

- Purulent nasal discharge
- Nasal obstruction
- Facial pain, pressure and fullness.
- Headache usually bilateral frontal/periorbital but can radiate posteriorly/to ears
- Pressure like, dull, aching and tightening
- Worse leaning forward
- Migrainous features rare
- Complications Meningitis, Cranial neuropathies, Cortical vein thrombosis, Cavernous sinus thrombosis , Hypophysitis

1. Deconde AS, Mace JC, Ashby S, et al. Characterization of facial pain associated with chronic rhinosinusitis using validated pain evaluation instruments.

2. Ceriani CE, Silberstein SD. Headache and rhinosinusitis: A review. *Cephalalgia*. 2020;41(4):453-463. doi: *Int Forum Allergy Rhinol* 2015; 5: 682–690

Diagnosis

- Anterior rhinoscopy
- Direct nasal endoscopy
- Ct sinuses
- MRI to distinguish inflammation from neoplastic disease

Consider neoplastic or inflammatory pathology

1. Rosenfeld RM, Piccirillo JF, Chandrasekhar SS, et al. Clinical practice guideline (update): Adult sinusitis. *Otolaryngol – Head Neck Surg* 2015; 152: S1–S39

2. Ceriani CE, Silberstein SD. Headache and rhinosinusitis: A review. *Cephalalgia*. 2020;41(4):453-463. doi



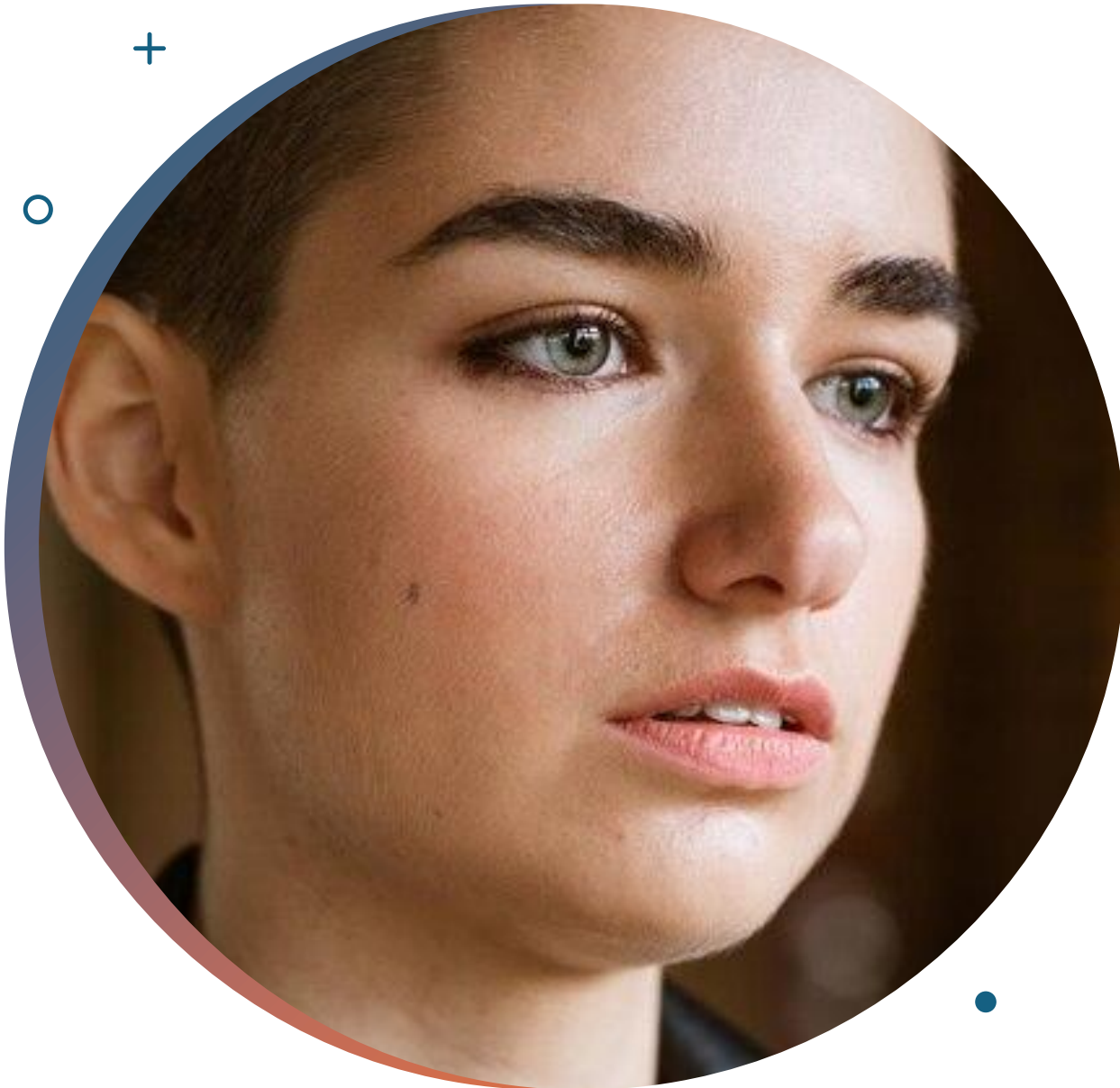
Treatment is treatment of the underlying sinus condition



- Viral- conservative management with NSAIDS, Paracetamol, topical intranasal steroids, nasal saline irrigation
- Bacterial- antibiotics (amoxicillin/co-amoxiclav if severe disease or other risk factors. Doxycycline if penicillin allergic)
- Nasal irrigation, topical intranasal corticosteroids 8-12 weeks
- Chronic rhinosinusitis- macrolides
- Endoscopic sinus surgery

1. Rosenfeld RM, Piccirillo JF, Chandrasekhar SS, et al. Clinical practice guideline (update): Adult sinusitis. *Otolaryngol – Head Neck Surg* 2015; 152: S1–S39.

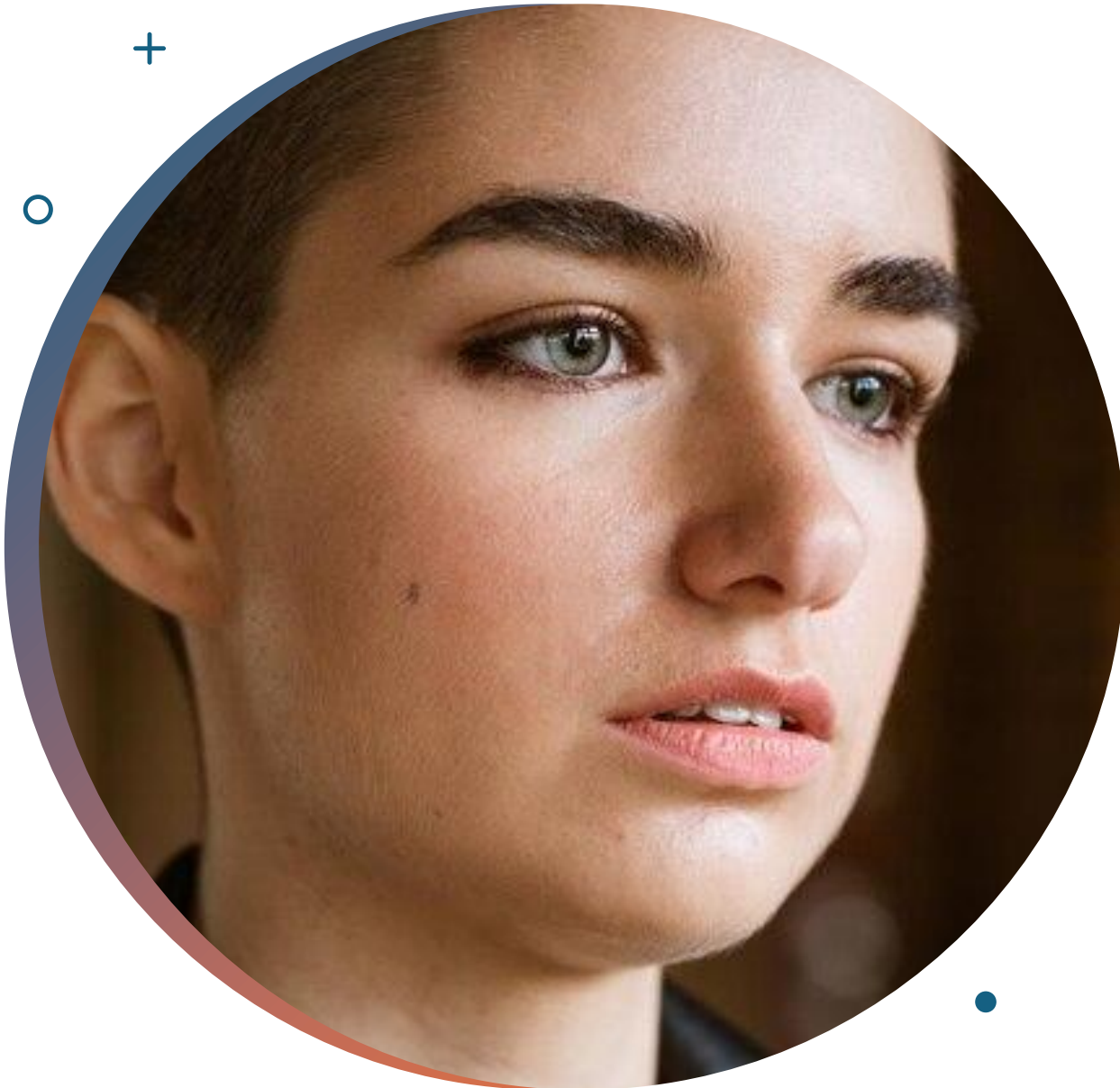
2. Hayward G, Heneghan C, Perera R, et al. Intranasal corticosteroids in management of acute sinusitis: A systematic review and meta-analysis. *Ann Fam Med* 2012; 10: 241–249



Case 1

- 24-year-old female
- Background of Autism and mild learning difficulties, De George syndrome, nasal turbinate hypertrophy and deviated septum
- Sertraline 100mg
- Headaches since childhood bifrontal and throbbing associated with sensitivity to light, sound and smell
- Burning pain behind the nose and in the cheeks for many years
- Referred to ENT feeling of blocked sensation in the nasal passages
August 2019

Thoughts?

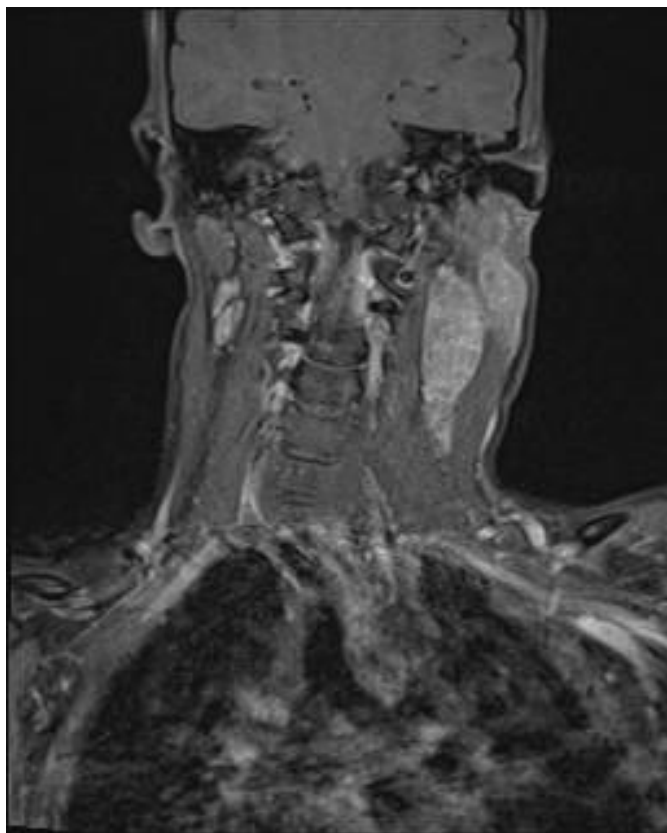
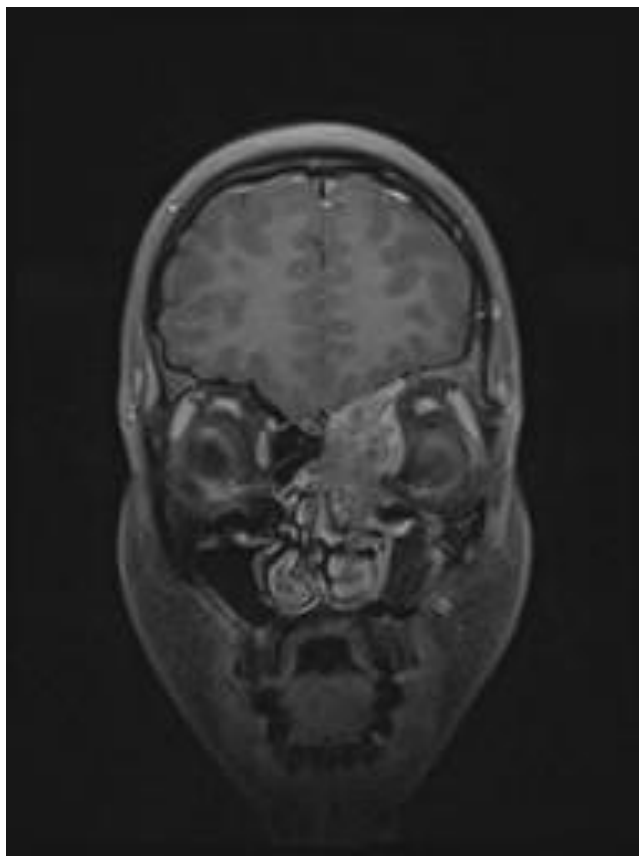


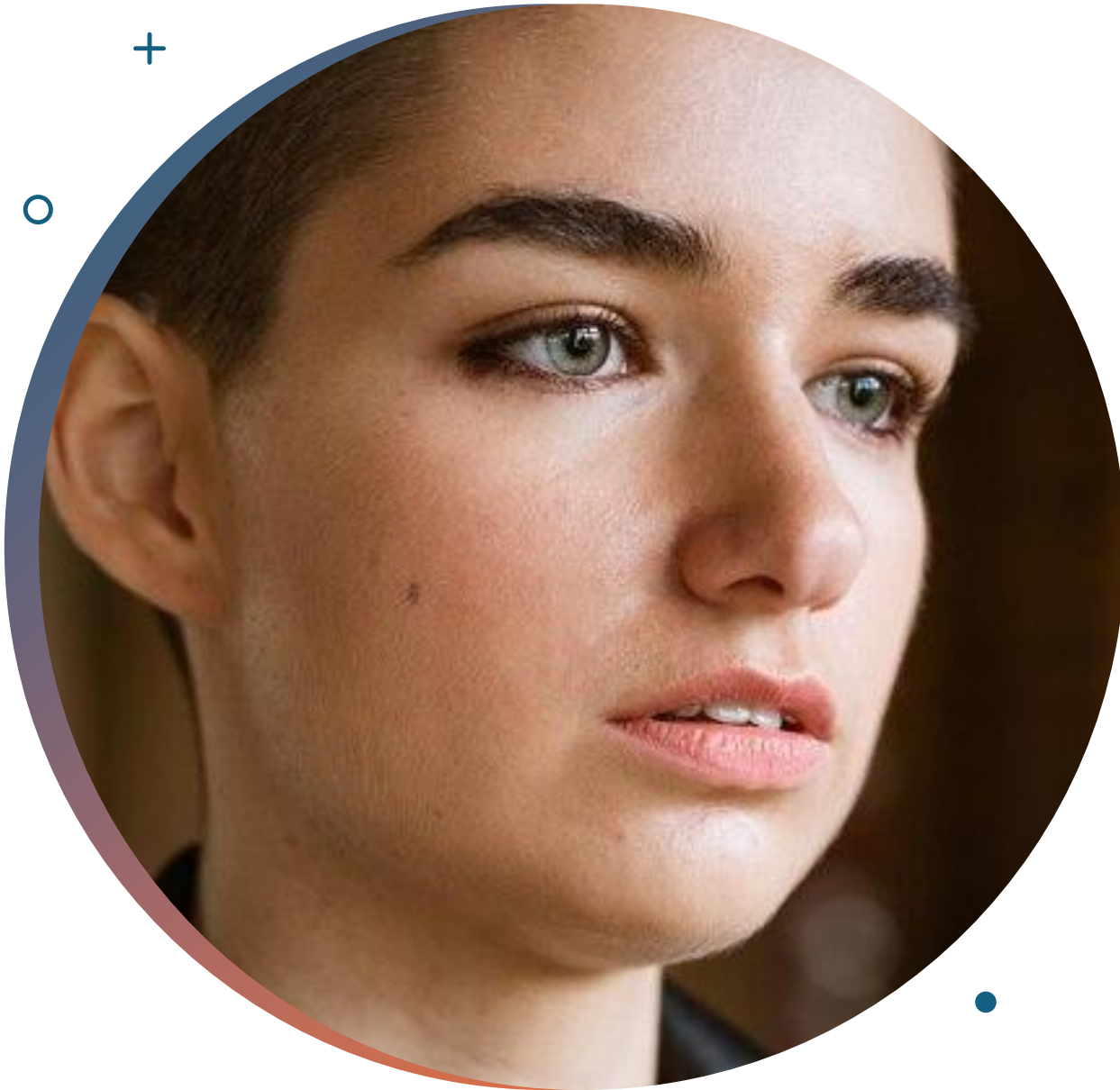
Case 1

- ENT saw her and found lymphadenopathy in the left pre tragal, angle of the mandible and the submandibular salivary gland
- Organised an USS of the neck with biopsy

Further tests?

MRI of brain and neck with contrast





Case 1

Neurology 2019

- Propranolol
- Candesartan
- Gabapentin
- Rizatripan
- Fremanezumab
- Greater occipital nerve block

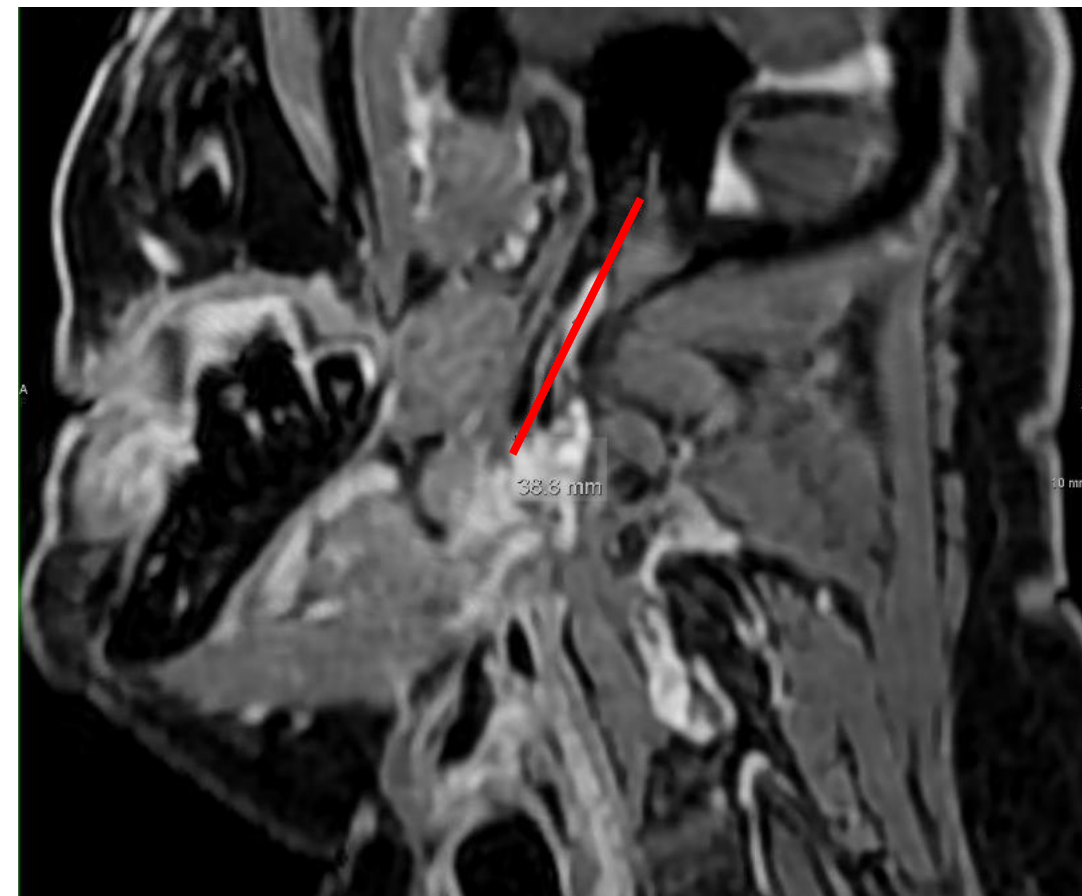
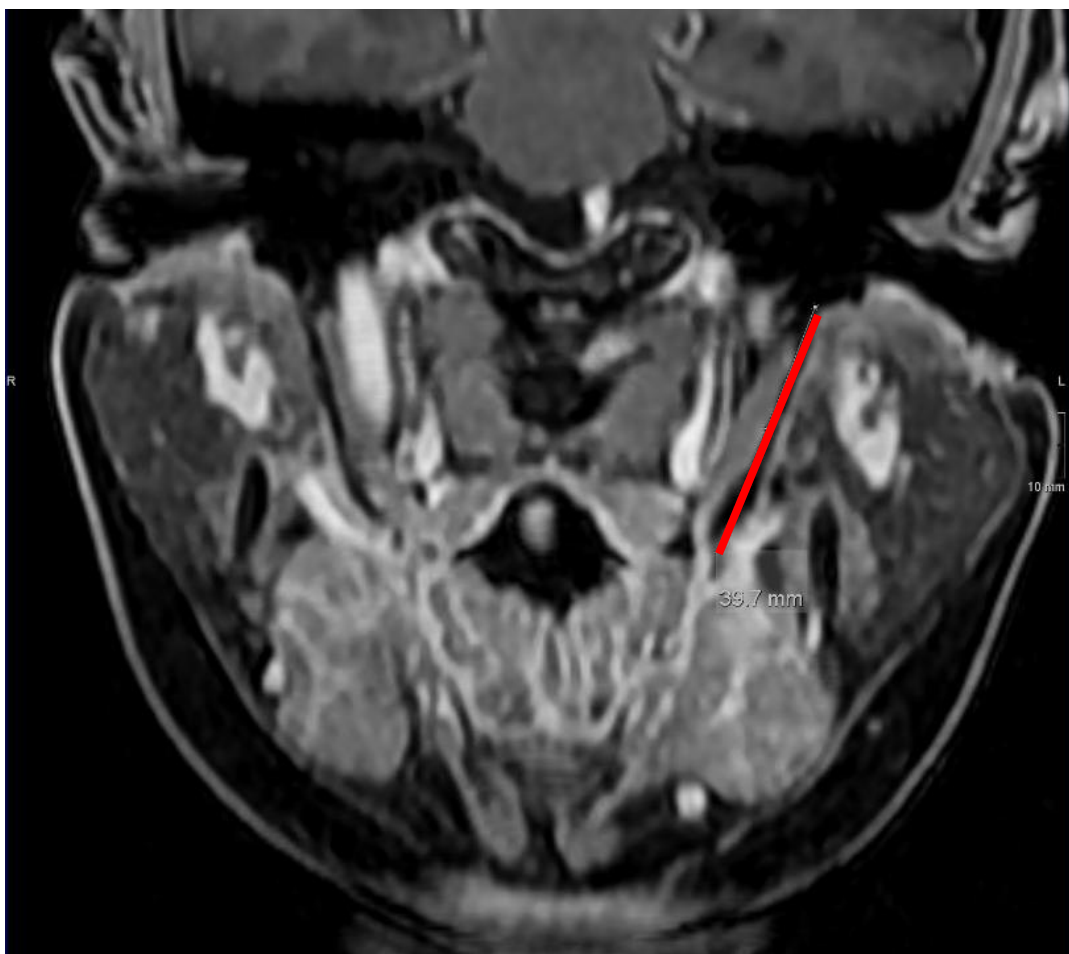
Case 2



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- 60-year-old female
- For over a year symptoms of a lump in the left side of her throat
- Dull left ear pain with a high -pitched sound
- Intermittent visual disturbance - flashes of light in the vision lasting 20 minutes
- Throbbing pain behind the left eye and numbness in the v1 distribution of trigeminal nerve
- Normal examination of neck, cranial nerves
- Seen ENT- normal flexible nasoendoscopy and no trismus

Thoughts?





Case 3

60 -year -old retired hairdresser.

- Background tonsillectomy, anxiety and depression
- 4 years ago, started to develop pain in the occipital region on the left side with associated dull ache and burning pain in her jaw.
- Over time she developed right occipital pain, pain in her neck and shoulders and the jaw pain on the right.
- She recalls having clicking of her jaw when she was younger and known to have an overbite.
- Jaw pain made worse by talking and eating
- On examination . Tenderness over multiple trigger points in the neck and shoulders with reduced range of movement of the neck. Tenderness over both TMJ joints.

Case 3

- Saw Maxillofacial team and x-ray of the jaw unremarkable.
- MRI brain reported as possible neurovascular conflict of the trigeminal nerve bilaterally however after discussion at radiology MDT not convincing.
- MRI cervical spine degenerative changes causing neural foraminal impingement on both sides at multiple levels.





Case 3

Treatments trialled

- Gabapentin, Baclofen, Carbamazepine, Oxcarbazepine, Amitriptyline, GON block, Phenytoin infusion, Pregabalin, Lidocaine patch, neurophysiotherapy, Lamotrigine, citalopram, sertraline
- Microvascular decompression of the right trigeminal nerve

Thoughts?



Case 3

Cervicogenic headache with TMJ dysfunction

- Suicidal ideation
- Duloxetine 60mg BD, Oxcarbazepine 75mg OM and 150mg ON, Pregabalin 75mg OM, 100mg lunchtime and 100mg tea-time, Mirtazapine 30mg ON
- Botox- 5 cycles with botox into masseter 10 units bilaterally
- Sternocleidomastoid botox 25 units

Key messages

- *“If you listen to patients carefully enough the patient will tell you the diagnosis” William osler*
- *“Medicine is not merely a science but an art . The character of the physician may impact more powerfully on the patient than the drugs employed” Paracelcus*
- *“No one cares about how much you know until they know how much you care “ Roosevelt*

The Hull headache team



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Thank you

