

Differential diagnosis of Orofacial Pain

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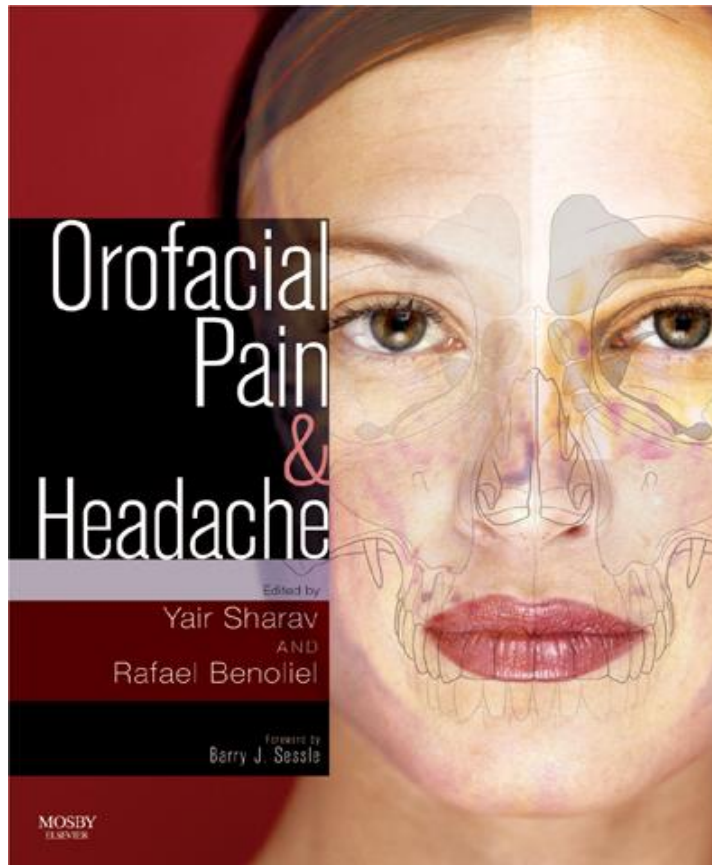
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Orofacial Pain & Headache

Yair Sharav & Rafael Benoliel

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Special features of orofacial pain

The density of anatomical structures

Mechanisms of referred pain

Important psychological meaning of face and oral cavity

Acute & chronic pain

Acute versus Chronic Pain

	Acute	Chronic
Time course	Short (Hours to days)	Long (months to years)
Etiology	Peripheral inflammatory	Central neuropathic
Response to:		
Analgesics	Good	Poor
Psychotropics	Poor	Modrate - Good
Behavioral	Anxiety “gaurding”	Depression “illness behavior”

Acute Orofacial Pain

Intraoral pain

Related structures

Dental

Maxillary sinus

Periodontal

Salivary glands

Mucosal

Mostly inflammatory in origin,

Due to: infection, trauma, malignancy

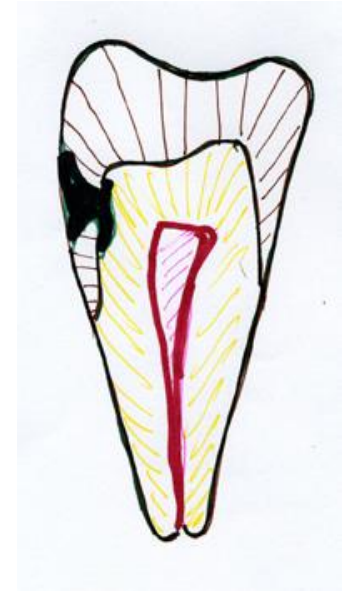
Dental

Dentinal Pain

Pulpal Pain



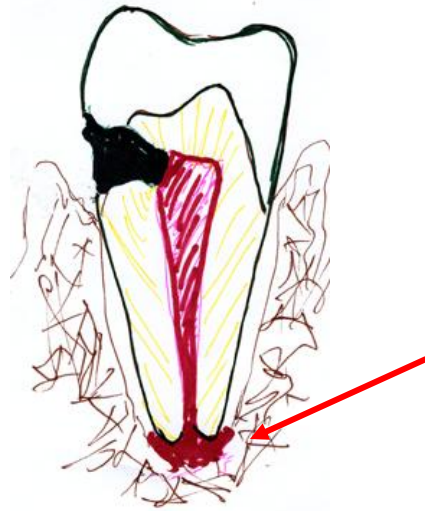
Evoked
(cold, sweet)
Short, mild



Spontaneous, or evoked
(cold)
Paroxysmal
Severe

Not affected by antibiotics

Periapical Pain



Spontaneous, long lasting
Strong
Evoked by chewing
No cold sensitivity

Lateral periodontal Pain

Spontaneous, long lasting
Mild to strong
Evoked by chewing

Affected by antibiotics

Chronic Orofacial Pain

Musculoskeletal

Masticatory muscles
Tension-type headache
TMJ disorders

Neurovascular

Migraine
Cluster headache
Paroxysmal hemicrania
Neurovascular orofacial pain (VOP)



Neuropathic

Paroxysmal

Neuralgias

Continuous

Deafferentation

Musculoskeletal

Masticatory muscles

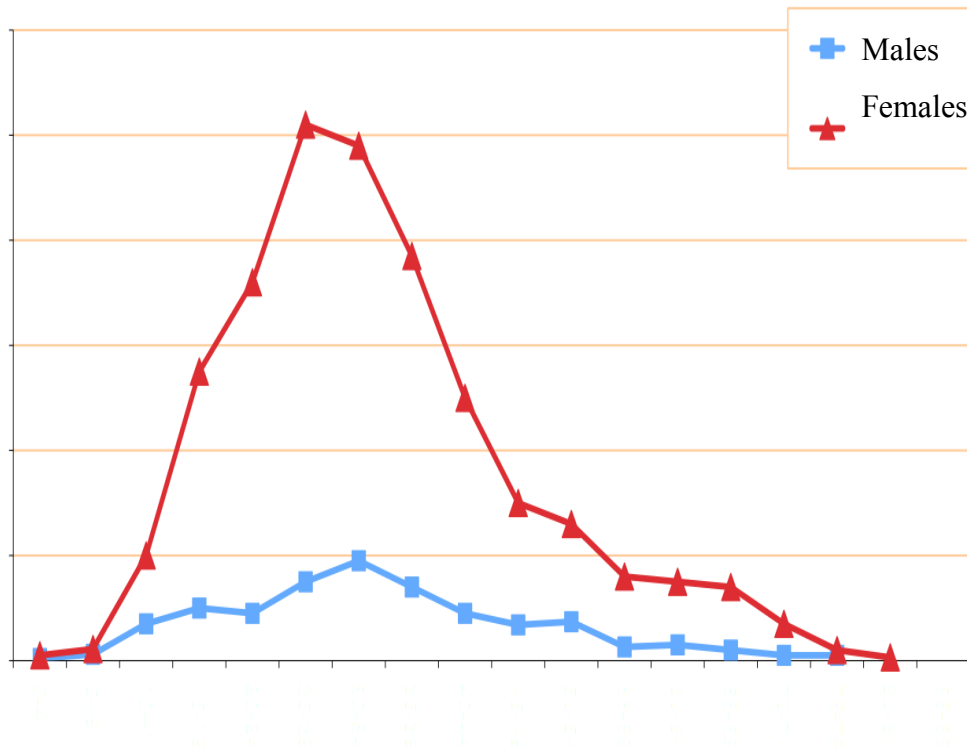
Tension-type headache

TMJ disorders

Temporo mandibular pain & dysfunction (TMD)

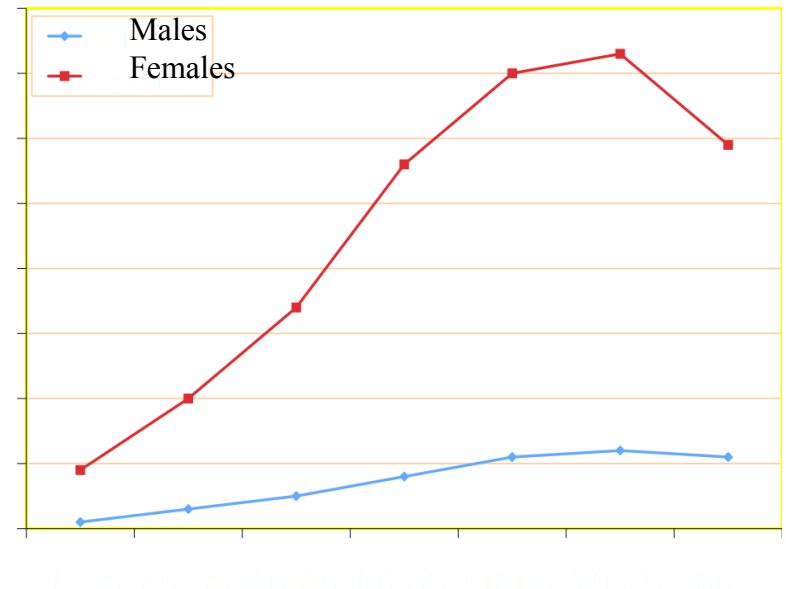
- Pain is chronic, daily, does not wake
- Unilateral: angle of mandibule & front of ear
- Pain on chewing & yawning
- Limited mouth opening (less than 45 mm)
- Masticatory muscles tender to palpation (mostly unilateral)

TMD (n=3,428), Age and Gender Distribution



(Adapted from Howard JA 1991)

Fibromyalgia: Age & gender distribution



Wolfe et al 1995

Conservative management of TMDs

- Medication
 - Amitriptyline (10 – 20 mg)
 - NSAIDs
 - Analgesics
- Physical Therapy
- Soft Diet
- Occlusal splint
- CBT

Neurovascular Pain

Migraines

TACs:

- **Cluster Headache**
- **Paroxysmal Hemicrania**
- **SUNCT**

**Neurovascular Orofacial
Pain (NVOP)**

Common Features of Neurovascular Pain

Pain is:

Periodic

Severe

Unilateral

Pulsatile

Wakes from sleep

Accompanied by:

a. Local autonomic signs

Ocular: tearing, redness, ptosis, miosis

Nasal: rhinorrhea, congestion

Local swelling or redness

b. systemic signs

Nausea, vomiting

Photo/phonophobia

The TACs

Trigeminal Autonomic Cephalgias

- Cluster Headache
- Paroxysmal Hemicrania
- SUNCT

TACs Pain Characteristics

	Duration (mins.)	Episodes /24h	Wakes	Trigger
CH	45-90	1	++	Alcohol
PH	13-29	8	+	Mechano
SUNCT	0.2-2	28	+ -	Mechano

Cluster Headache

Very severe pain around the orbit

Short duration (15 - 120 mins)

Active (cluster) and non-active periods

Once a day (50% wakes)

Autonomic signs:

Tearing, redness of eye

myosis, Ptosis,

rhinorrhea

Cluster Headache

Pain characteristics

Unilateral

Severe

Paroxysmal

Active periods:

For 4-12 weeks

Every 6-18

months

Epidemiology

Male/female (!) 5:1

Onset 30-40 years

Prevalence 0.24%

(Migraine 10 – 15%)

Abortive treatment of CH

Agent	Dose	Comments
Oxygen	8 liters/min	First line, but cumbersome
Sumatriptan	6-12mg SC 20mg IN	Effective, fast
Dihydro-ergotamine	0.5-1mg IN	Reduces pain severity

Prophylactic treatment of episodic cluster headache

Agent	Dose mg/d	Comments
Verapamil	160-480	First line Baseline ECG
Prednisone	50-80	Initial therapy till, e.g. verapamil takes effect.
Valproic Acid	600-2000	For patients with migraine
Topiramate	25-200	Increase by 25mg/d every 5 days

paroxysmal hemicrania

- Unilateral, around orbit and temple
- Frequent (up to 30 per day), wakes from sleep

Associated signs (ipsilateral):

- Short attacks (15 -30 min) of sharp, excruciating pain
- Conjunctival injection
- Tearing with nasal congestion and rhinorrhea

Paroxysmal hemicrania treatment

Absolute response to *Indomethacine*

25 - 150 mg / d

(Abortive and Prophylactic)

To avoid GI side effects:

Omeprazole (Losec), 20-40 mg/day

Neurovascular Orofacial pain (NVOP)

- **Episodic**
- **Chronic**

Neuropathic Orofacial Pain (NOP) : Common entities

- **Trigeminal Neuralgia**
- **Post Herpetic Neuralgia**
- **Ramsay Hunt Syndrome**
- Deafferentation Pain
- Neuritis

Trigeminal Neuralgia

Pain is:

Paroxysmal

Short (seconds)

Provokable (triggered)

Unilateral

Confined to Vth nerve

No sensory deficit

Tic

Drugs used in Trigeminal neuralgia

Drug	Initial dose	Target dose (titerated)	Dose increase	Evidence
Carbamazepine-CR	100-200	1200	100-200mg/2d	A
Oxcarbamazepine	300	1200-2400	300-600mg/w	B
Baclofen	5-15	30-60	5mg/3d	A
Gabapentin	300	900-2400	300mg/3d	B
Pregabalin	150	300-600	50mg/2-3d	C

Pretrigeminal Neuralgia

PTN has been reported in 18% of Trigeminal Neuralgia patients.

Characterized by **dull continuous pain** for months to yrs becoming more typical of TN as the process continues.

PTN is highly responsive to Carbamazepine.

Herpetic Pain

Acute herpetic

- **Post herpetic**
- **Ramsay Hunt**

Acute herpes zoster

- Affects the trigeminal nerve in 10-15% of cases
- Ophthalmic branch affected in 50-80% of cases
- Begins as localized pain followed by typical vesicular eruption within 7 days

Acute herpes zoster Treatment

Drug	Dosage	Times (Days)	Duration (days)
Acyclovir (Zovirax)	800	5	7-10
Valaciclovir (Valtrex)	1000	3	7
Famcyclovir	250 (500 U.S.)	3	7

Initiate drug treatment early, especially in patients >50-y-o to avoid rash duration, pain severity and PHN

Post Herpetic Neuralgia

- Pain that develops in acute HZ but persists for > 6 months
- Pain is burning with superimposed stabbing pain
- Accompanied by allodynia and hyperalgesia
- Typical skin changes
- Affects elderly > young, 60% of patients >60y will develop PHN

Post Herpetic Neuralgia Treatment

Drug	NNT
Amitriptyline	2.6 - 3.2
Opioids (oxycontin)	2.5 - 3
Gabapentin	3.9 – 4.39
Pregabalin	3.3 – 4.93
Tramadol	4.7