Headache: What the ENT Should Know
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“Doctor, I have a sinus headache!”
Why the confusion?
- Migraine involves activation of the trigeminal nerves

Up to 90% of sinus headaches may be migraine

Misdiagnosis can lead to overuse of medications, unnecessary surgeries, and unsatisfied patients

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International Classification of Headache Disorders, 3rd edition

Does “sinus headache” exist?

1. Migraine or tension headache due to disorder of the sinus, nose, ears, neck, eyes, teeth, mouth or other tissue or central origin

11. Migraine or tension headache due to disorder of the ear

12. Migraine or tension headache due to disorder of the nose

13. Migraine or tension headache due to disorder of the eyes

14. Migraine or tension headache due to disorder of the teeth

15. Migraine or tension headache due to disorder of the mouth

16. Migraine or tension headache due to disorder of the neck

17. Migraine or tension headache due to disorder of the face

Bibliography
"Sinus Headache" - Definitions

**HEADACHE ATTRIBUTED TO ACUTE RHINOSINUSITIS**

- Acute onset
- Frequent or recurrent episodes
- Nasal obstruction or drainage
- Pain or pressure in the face or sinuses
- Pain may be associated with colds or allergies

**HEADACHE ATTRIBUTED TO CHRONIC OR RECURRENT RHINOSINUSITIS**

- Chronic symptoms
- Nasal obstruction or drainage
- Persistent headache
- No associated colds or allergies

International Classification of Headache Disorders, 3rd edition

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A Common Encounter

30 year-old female presents to ENT with concerns of sinusitis and headache

**Sinusitis**

- Occurs several times a year, each lasting a day or up to a week
- Associated nasal drainage, nasal congestion, face and forehead pain
- Begin with a cold and progress to thick discolored drainage
- OTC sinus meds and antibiotics do help
- Had CT done once that showed “stuff in her maxillary”

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A Common Encounter

On further questioning she describes 2 types of headache

- The headache that occurs with sinus infections
  - A monthly headache that is throbbing and will make her feel sick to her stomach – pain is more severe than her “sinus headache”
  - Pain also over sinuses and does have congestion and drainage

- She does have a family history of migraines; father has had sinus surgeries
Patient’s thoughts

- It's clearly my sinuses
  - Location is the same
  - Associated nasal symptoms
  - Radiographical evidence
  - Improvement with sinus medications
  - Family history of sinus disease → surgery

What does the patient expect?
- A cure!

What can we do?
- Treat the sinusitis, but also recognize there are different types of headaches and the similarity of symptoms
- Educate!
- Know when to refer

Case 1

40 year-old female complains of intermittent headaches that started in her teen years. These are usually right-sided only, but occasionally will feel pain above both eyes. Pain is described as throbbing and severe, with associated light and sound sensitivity. She also complains of associated nasal stuffiness with pain worsened by bending forward or other activity. When severe, she does get nauseated and has occasionally thrown up.
Migraine without Aura

2nd most common primary headache disorder
Most common diagnosis of headache seeking medical attention
Affects 18% of women and 6% of men

Migraine without Aura

DIAGNOSTIC CRITERIA

At least 5 attacks fulfilling criteria
- Headache lasting 4-72 hours
- Headache with at least 3 of the following 4:
  - Pulsating quality
  - Unilateral location
  - Aggravation by or avoidance of routine physical activity
  - Moderate to severe pain intensity
- During the headache at least 1 of:
  - Nausea and/or vomiting
  - Photophobia and phonophobia

WHY DOES IT MIMIC SINUS HEADACHE?

- Headaches around eyes
- Nasal and allergic symptoms commonly occur
- Migraine and allergy both involve nausea, vomiting, diarrhea, malaise and fatigue


Listed in the appendix
- Believed to be real, but better scientific evidence must be presented before formally accepted

What about Vestibular Migraine?

- History of migraine with or without aura
- Vestibular symptoms lasting longer than 72 hours
- 50% of episodes associated with aura
  - Headache with 2 of 4 (bilateral, pulsating, aggravation by or avoidance of routine physical activity, photophobia, phonophobia, sensitivity to motion or smell, pressure or nausea)
  - Visual aura

International Classification of Headache Disorders, 3rd edition
Objective was to classify the headache types that those with self-diagnosed sinus headache experience and determine barriers to correct diagnosis.

100 patients recruited and detailed history and exam was performed.

International Headache Society diagnoses mistaken for sinus headache:
- Migraine with or without aura (52%)
- Chronic migraine with medication overuse (11%)
- Probable migraine (23%)
- Cluster headache (1%)
- Hemicrania continua (1%)
- Headache secondary to rhinosinusitis (3%)
- Headaches nonclassifiable (4%)

Frequent migraine triggers:
- Weather changes (83%)
- Seasonal variation (73%)
- Exposure to allergens (62%)
- Changes in altitude (38%)

Most common associated feature in migraineurs was nasal congestion (56%).

36 year-old presents with daily headaches. Headaches started 10 years ago and worsened when she was promoted at her place of work. She was getting headaches 4 days a week requiring frequent use of acetaminophen-caffeine-butalbital combination. She now is taking the medication daily and continues to have headaches daily. These are described as bifrontal pressure and does not impact her ability to work or exercise. She denies associated nausea, vomiting, photo/phonophobia. She often feels fatigued and does note tenderness in her neck muscles when her husband gives her a massage.
Tension-type Headache

Most common primary headache disorder
Can be confused with migraine (throbbing, photo or phonophobia)
Should not be associated with nausea or vomiting

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Case 2

What is this patient’s diagnosis?
- Chronic daily headache (CDH)
- Chronic migraine
- New daily persistent headache
- Episodic tension headache
- Chronic tension-type headache with pericranial tenderness + Combination-analgesic-overuse headache

Chronic Daily Headache
- Not a diagnosis!
- Just tells you that a patient has some chronic form of a headache

Chronic migraine
- Headache more than 15 days per month, 8 of which meet criteria for migraine; lasting >3months

New daily persistent headache
- Headache starts one day and doesn’t stop
- Patients clearly remember date of onset
- Often refractory to treatment

Episodic tension type headache
- Infrequent or frequent tension headaches that occur <15 days per month
Case 3

28 year-old male presents with attacks of headache that started a few weeks ago. He denies any prior history of headache. He states the headaches usually last anywhere from 15 minutes up to 1.5 hours. The first week he was getting 1 attack every few days, but now is getting 1-2 per day. He has noticed that most attacks occur at night, awakening him from sleep. The pain is located behind his left eye and feels as though someone is stabbing his eye. During the attack his eye will water, turn red, and he will feel the need to pace around the room.

Cluster Headache

- International Classification of Headache Disorders, 3rd edition
Cluster Headache
Paroxysmal Hemicrania
Short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT)
Short-lasting unilateral neuralgiform headache attacks with cranial autonomic features
Hemicrania continua
Case 3

What is this patient’s diagnosis?
- Paroxysmal hemicrania
- Cluster headache
- Complicated migraine
- Primary stabbing headache
- Hypnic headache
- SUNCT

Complicated migraine
- Not a diagnosis
- Migraine aura or other variant

Primary stabbing headache
- Formally “ice-pick” headache
- Indomethacin responsive
- No autonomic features

Hypnic headache
- Occurs exclusively in sleep
- Older age of onset (>50)
- Secondary causes need to be ruled out
- Responds to caffeine before bed

Case 4

42 year-old female with history of chronic rhinosinusitis and fibromyalgia presents with a 10 year history of facial pain. She has a history of similar pain prior to that which was attributed to her sinuses. She underwent sinus surgery with no relief. She presents today with on-going facial pressure and discomfort in the setting of normal CT of sinuses. Pain is described as a nagging dull pain that feels deep in her sinuses. She occasionally has sharp pains, location throughout the face can vary. She denies any associated migrainous or autonomic symptoms. She saw the dentist for which a dental cause was ruled out.
Persistent Idiopathic Facial Pain

Formally called “atypical facial pain”
Facial and/or oral pain that is poorly localized
Dental cause excluded
Comorbid pain conditions (fibromyalgia, IBS)
Psychiatric comorbidity
May be triggered by minor operation or injury
May respond to SSRIs or SNRIs

Case 4

What is this patient’s diagnosis?
- Trigeminal neuralgia
- Persistent idiopathic facial pain
- Tension headache
- Nummular headache
Trigeminal neuralgia
- Unilateral pain in distribution of the trigeminal nerve
- Described as recurrent electric shock-like pains
- Triggered by innocuous stimuli

Nummular headache
- Continuous pain in small, well-circumscribed area (“coin”) pain
- Pain intensity fluctuates
- No other features
- Secondary causes have been reported
- Trophic changes have been reported

Conclusions
Not all “sinus” pain is related to patients’ sinuses
Many patients go misdiagnosed and improperly treated
Often patients have an underlying headache disorder of which can be one of hundreds
It’s all in the history
Correct diagnosis is key and management is different for each
Don’t hesitate to call on your neurology friends for assistance!