CASE SCENARIO

- A 32 yr old man was referred for 10 yr history of bilateral pressing mild to moderate headache.
- Started as short episodes(2-8h)of a similar headache at the age of 15, which responded well to NSAIDs. Now there is no effect of NSAIDs, triptans nor of opioids.
- The patients has received multiple treatments at chiropractors, physical therapists, acupunctures etc without effect.
- His physical& neurological examinations was completely normal with mild tenderness in trapezius muscles.
- A prior MRI brain was also normal.

WHAT TYPE OF HEADACHE?

TENSION TYPE HEADACHE

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NOGTH

- What does it mean to have Tension-type headache?

- Where Tension comes from?

CONTENTS

- Characteristics of tension –type headache
- Pathophysiology
- Diagnosis & differential diagnosis
- Treatment
- Take home message

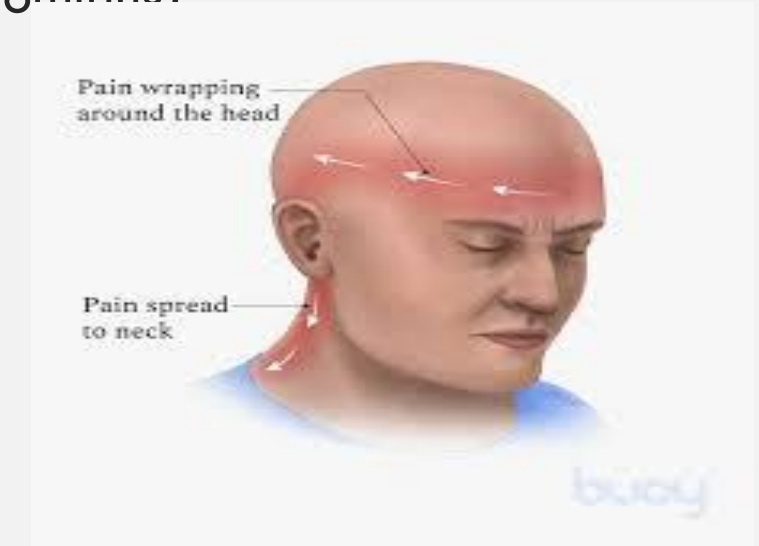
TENSION -TYPE HEADACHE IS THE MOST FEATURELESS OF THE PRIMARY HEADACHE DISORDERS

Most common type of primary headache disorder.

Many secondary headaches may micmic Tension-type headache (TTH).

CHARACTERISTICS

- Bilateral, pressing, tightening pain of mild to moderate severity
- Associated symptoms- Only one of migraine associated symptoms is allowed. (either photophobia, phonophobia or vomiting)
- Not aggrevated by physical activity
- Rarely severely incapacitated by their pain
- Short episodes of variable duration

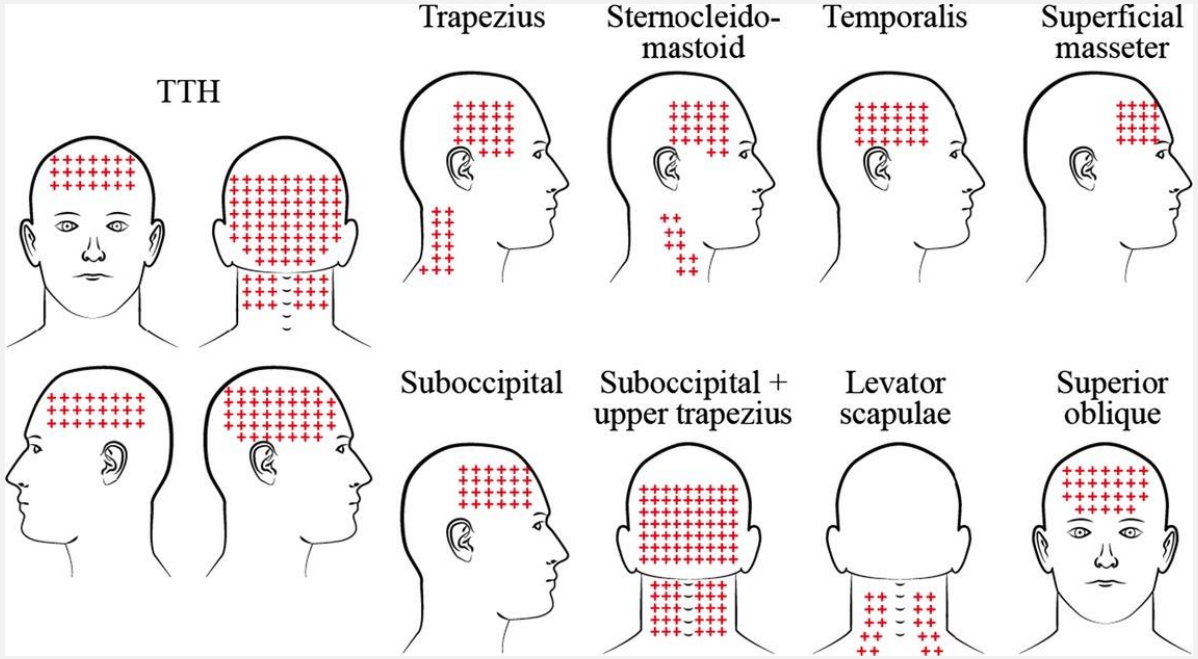


- Infrequent TTH - equal or less than 1 day/ month
- Frequent TTH - 1-14 days/month
- Chronic TTH - equal or more than 15 days/month (continuously)

Signs

- Severe tenderness in the pericranial muscle
- Trapezius and splenius muscle in the neck

TTH LOCATIONS & CORRESPONDING MUSCLE GROUPS



PATHOPHYSIOLOGY

- Pericranial myofascial nociception is probably important for it.
- Muscle pain can lead to a disturbance of the brain's pain-modulating mechanisms;
- normally innocuous stimuli are perceived as painful with secondary perpetuation of muscle pain and risk of anxiety and depression.
- Sensitization of central nociceptive pathways seem to be responsible for the conversion of episodic to chronic TTH.

DIAGNOSIS

History (detailed interview is needed)

- Based on patient's description of the headache and locations
- Headache diary is a very useful instrument
- Need to include all consumed drugs, triggers and
- significant comorbidities (anxiety, depression)

HEADACHE DIARY

- 1. When did the headache begin? - nearest hour
- 2. Any disturbance of other senses just before the headache began? - vision
- 3. Unilateral(RT/Lft) or bilateral
- 4. Character-pulsating/throbbing,pressing, tightening
- 5. Severity-mild/moderate/severe
- 6. Change in severity with physical activity(e.g-walking) worse,better, unchanged
- 7. Any provoking factor? Relieving factors?

- 8. Association- nausea, photophobia,phonophobia
- 9. When headache disappear?
- 10. Medication -how many item /name/how much/ when?

HEADACHE DIARY

After each question put one X in the box which is most appropriate.
Name: Birthday:

19	Date:	2/5	3/5	4/5	5/5	6/5	7/5	8/5
When did the headache begin?	Indicate nearest hour:							
Just before the headache began, was there any disturbance of	vision:	☐	☐	☐	☐	☐	☐	☐
	other senses:	☐	☐	☐	☐	☐	☐	☐
Was the headache	rightsided:	☐	☐	☐	☐	☐	☐	☐
	leftsided:	☐	☐	☐	☐	☐	☐	☐
	both sides:	■	■	■	■	■	■	■
Was the headache	pulsating/throbbing:	☐	☐	☐	☐	☐	☐	☐
	pressing/tightening:	■	■	■	■	■	■	■
Was the headache *See below	mild:	■	■	■	■	■	■	■
	moderate:	☐	☐	☐	☐	☐	☐	☐
	severe:	☐	☐	☐	☐	☐	☐	☐
Did the headache change with physical activity such as walking stairs	worse:	☐	☐	☐	☐	☐	☐	☐
	unchanged:	■	■	■	■	■	■	■
	better:	☐	☐	☐	☐	☐	☐	☐
Did you suffer from nausea?	no:	■	■	■	■	■	■	■
	mild:	☐	☐	☐	☐	☐	☐	☐
	moderate:	☐	☐	☐	☐	☐	☐	☐
	severe:	☐	☐	☐	☐	☐	☐	☐
Were you bothered by light?	no:	■	■	■	■	■	■	■
	mildly:	☐	☐	☐	☐	☐	☐	☐
	moderately:	☐	☐	☐	☐	☐	☐	☐
	severely:	☐	☐	☐	☐	☐	☐	☐
Were you bothered by sounds?	no:	■	■	■	■	■	■	■
	mildly:	☐	☐	☐	☐	☐	☐	☐
	moderately:	☐	☐	☐	☐	☐	☐	☐
	severely:	☐	☐	☐	☐	☐	☐	☐
When did the headache disappear?	Indicate nearest hour:							
Did anything provoke this attack?	specify:							
Did you take any medicine? Mention each different compound, how much you took, and when you took it (nearest hour).	name:							
	how much:							
	time:							
	name:							
	how much:							
	time:							

Physical Examination

- General neurological examination to exclude other organic disorders
- Manual palpation of the pericranial muscles and their insertions should also be done.
- Detailed fundoscopy for papilloedema

Prospective follow up using headache diary again

DIFFERENTIAL DIAGNOSIS

1. Mild migraine
2. Medication induced headache (MOH) as they most frequently coexist TTH.
3. Idiopathic intracranial hypertension

- High frequent TTH may trigger a latent migraine.
- Long lasting severe migraine attack may also be accompanied by a TTH in the post ictal phase

Medication Overuse Headache (MOH)

- The risk of MOH at a regular intake of simple analgesics above 14 days a month and triptans or combination analgesics above 9 days a month.
- Combination analgesics containing caffeine are effective but recommended as the second drug of choice.
- Combination analgesics with codeine, sedatives or tranquilizers should generally be avoided because of the risk of dependency, abuse and chronification of the headache.

MANAGEMENT

- Doctors takes the problem seriously may have a therapeutic effect

- Reassured by thorough neurological examination

Modify Triggers

- Physical/mental stress/ irregular ,inappropriate or miss meal
- High intake of coffee
- Dehydration
- Inappropriate exercise
- Sleep disorder(too much or too little sleep)
- Menstrual cycle and hormone substitution

LET THE PATIENT KNOWS

- TTH can seldom be cured
- But
- Meaningful improvement can be obtained

Non pharmacological treatment

- Posture, relaxation exercise programme
- Consciously reduce muscle tension
- Craniocervical training to classical physiotherapy
- Biofeedback---for cognitive changes
- Cognitive behavioral therapy

Pharmacological treatment paradigm for tension-type headache

Pharmacotherapy

Acute

Caffeine comb.65-200 mg

Diclofenac 12.5-100 mg

Naproxend 375-550 mg

Asprin 500-1000 mg

Ketoprofen 25 mg

Paracetamol 1000 mg

Prophylactic

Venlafaxine 150 mg

Mirtazapine 15-75 mg

Amitriptyline 30-75 mg

R.Jensen and L.Bendtsen

Triptans and

muscle relaxants

have not been demonstrated effective in tension type headache

Prophylactic pharmacotherapy

- Amitriptyline is the only drug proven to be effective
- Started at low dose(10 mg/ day) and titrated by 10 mg weekly until the patient has either good therapeutic effect or until side effects are encountered.
- Maintenance dose is 30-75 mg daily 1-2 hr before bedtime
- If patient does not respond after 4 weeks on maintenance dose of amitriptyline , Mirtazepine or Venlafaxine could be attempted.
- SSRI could be considered in patients with depression , if above three medications are not tolerated.

- As neither non-pharmacological nor pharmacological management is highly efficient, **combined** multiple strategies are usually recommended.

- **Discontinuation** should be attempted every 6-12 months.

PROGNOSIS

Episodic TTH	Chronic TTH
50% reduction in frequency	32% reduction in frequency
75% reduction in intensity	30% reduction in intensity
33% reduction in absence rate	40 % reduction inabsence rate

TAKE HOME MESSAGE

I. **Diagnosis** – essential to identify medication overuse headache and other coexisting headache.

- Thorough history is essential – Headache diary provide great help

II. **Management** - Acute, Chronic, Prophylactic, Discontinuation

- While giving prophylactic pharmacotherapy, concomitant use of daily analgesic should be avoided.

III. **Pathophysiology** -Pericranial myofascial nociception is probably important , there is unmet need for pathophysiological studies and experimental models.