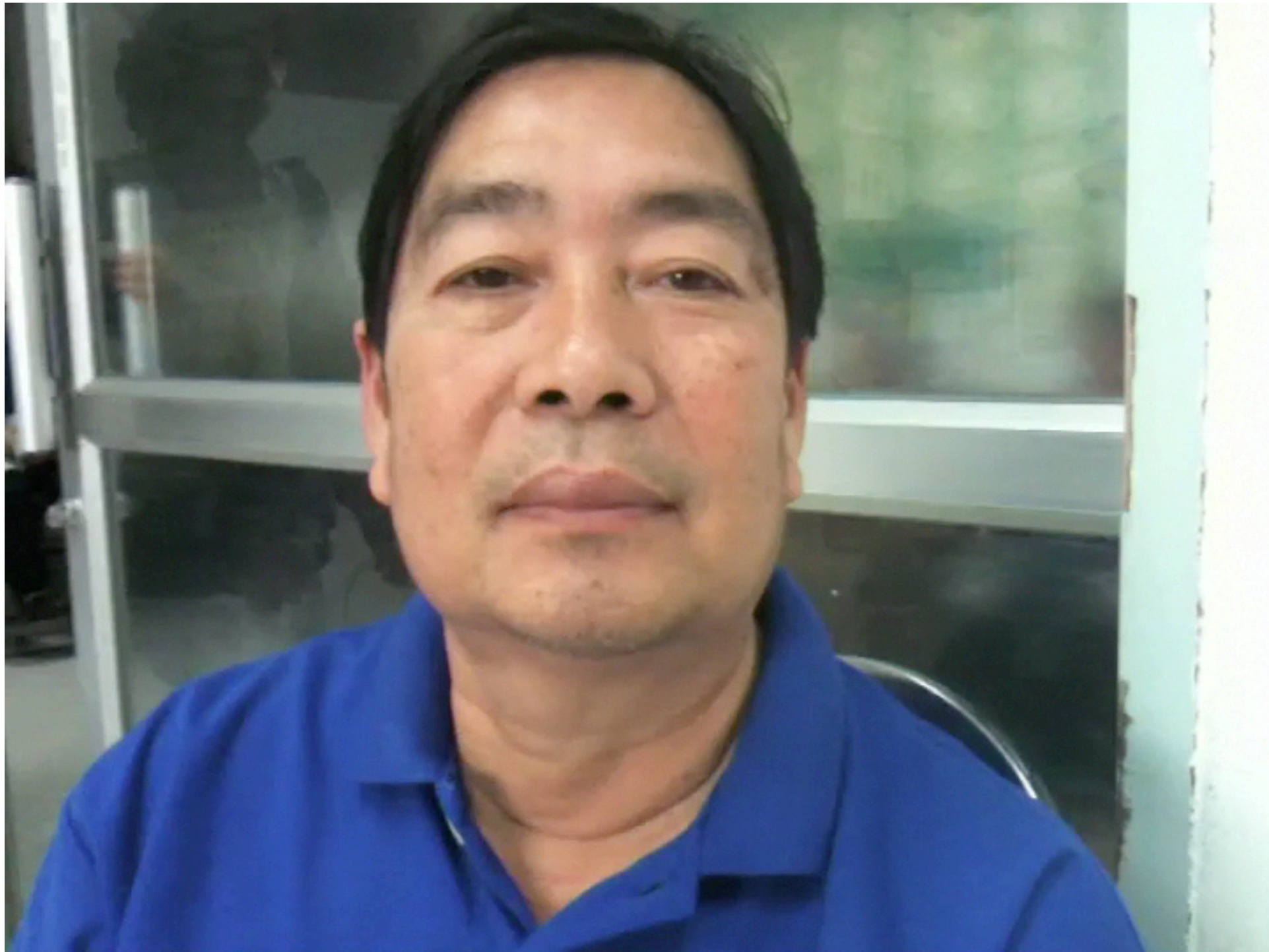




Facial pain: Is it Trigeminal Neuralgia?

Assist. Prof. Surat Tanprawate, MD
Neurology Unit, Chiang Mai University

Case







Short gun diagnosis of Trigeminal neuralgia

- TGN remains a clinical diagnosis dependent on a history of **sudden shooting or stabbing pain**, coming as **solitary sensations** or paroxysmal and separated by **pain-free intervals on** unilateral trigeminal nerve division distribution area.

Pain attributed to lesion or disease of trigeminal nerve (ICHD-III)

Trigeminal neuralgia

Classic trigeminal neuralgia

- Purely,
paroxysmal
- concomitant
continuous
pain

Secondary trigeminal neuralgia

- attributed to...
- Multiple sclerosis
 - Space occupying
lesion
 - Other cause

Idiopathic trigeminal neuralgia

- Purely,
paroxysmal
- concomitant
continuous
pain

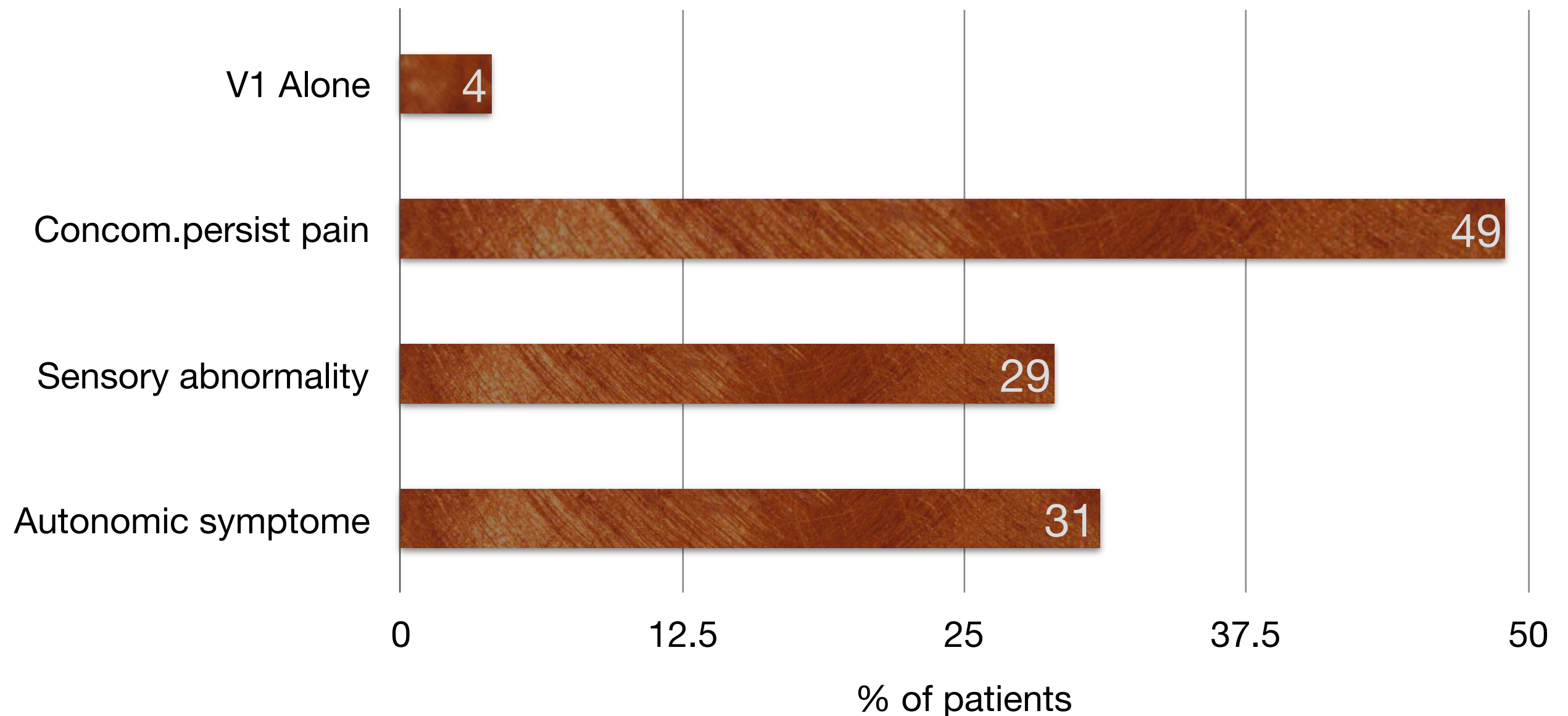
Painful trigeminal neuropathy

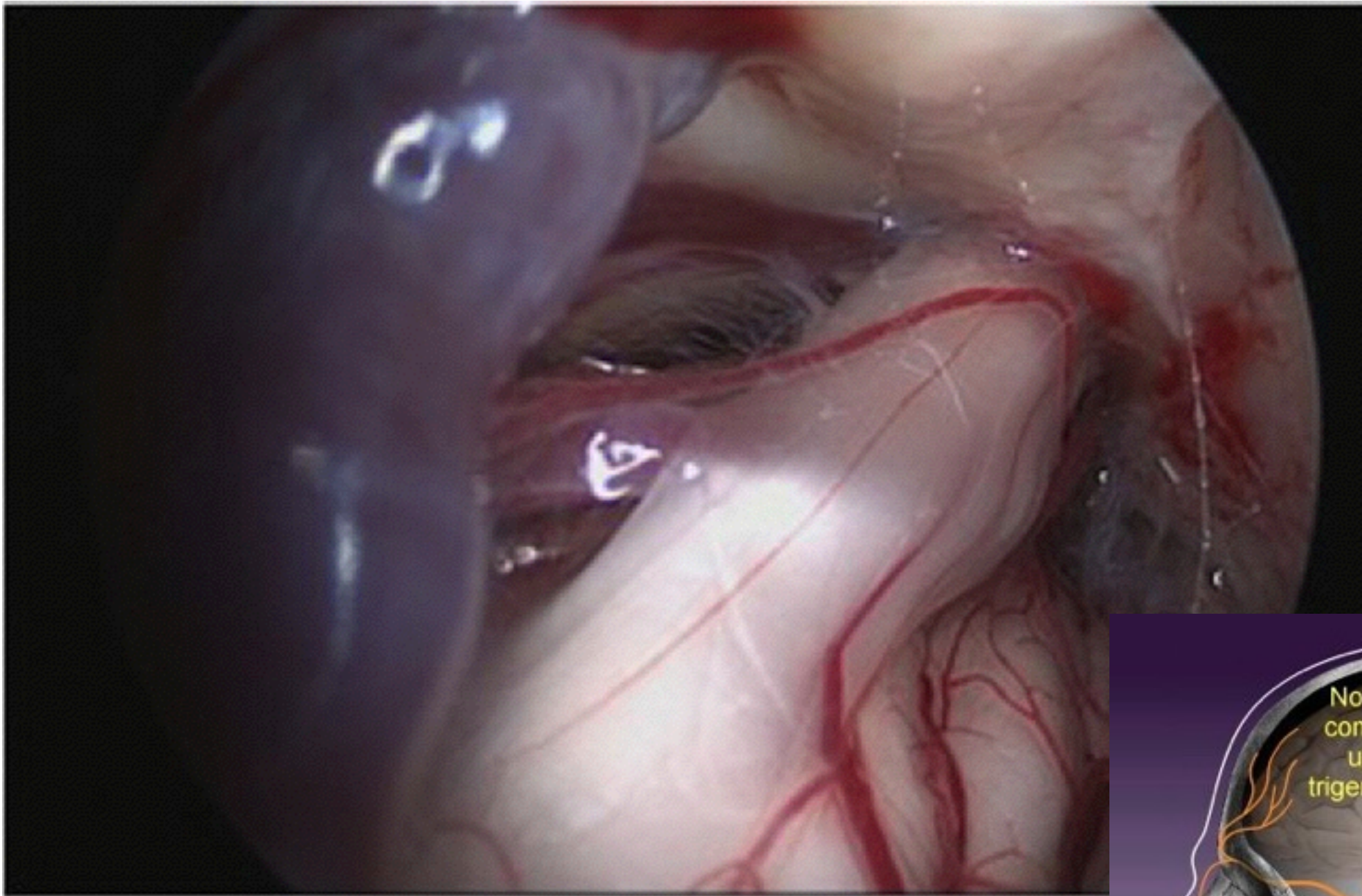
- Herpes zoster
- Post-herpetic
neuralgia
- Post-traumatic
- Other disorder
- Idiopathic

Classical Trigeminal Neuralgia

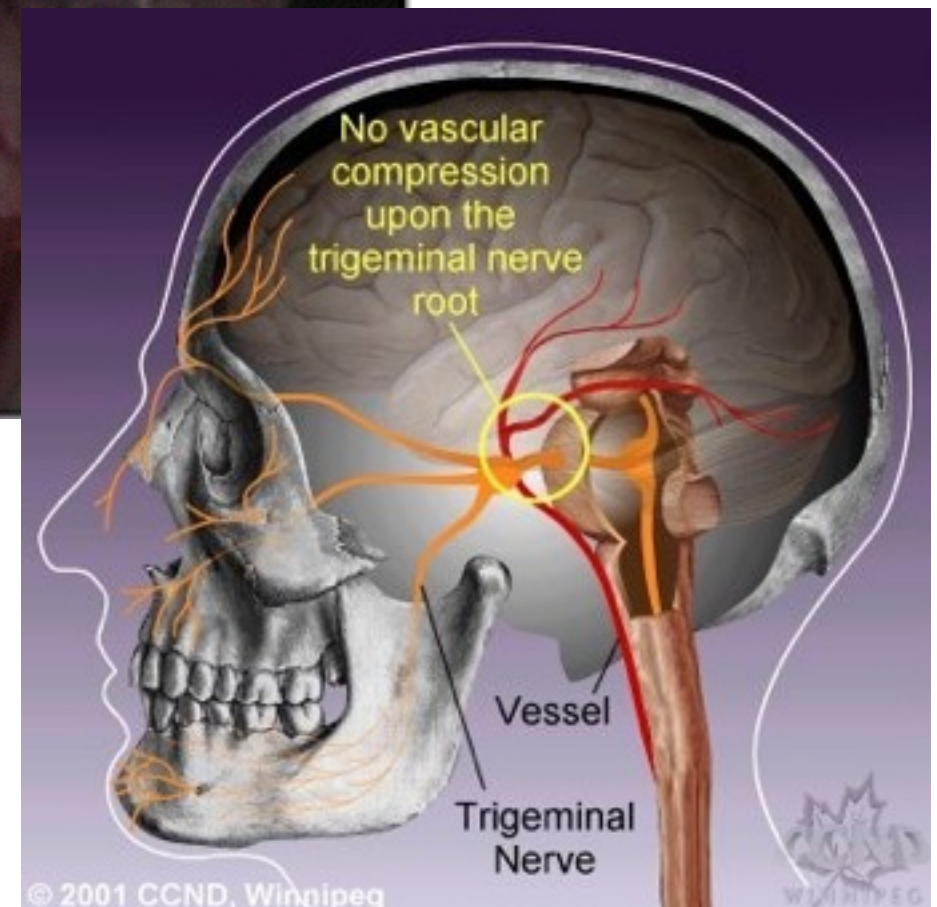
- Description: Trigeminal neuralgia developing without apparent cause other than neurovascular compression.
- “Pre-trigeminal neuralgia”: Classical trigeminal neuralgia may be preceded by a period of atypical continuous pain
- “Classical trigeminal neuralgia with concomitant continuous pain: prolong background pain in the affected area

Key the clinical characteristics of Classic Trigeminal Neuralgia (n=158)





Vascular compression of Trigeminal nerve



Trigeminal neuralgia attributed to space occupying lesions and other cause

- Characteristics - similar to TN
- may or may not detect sensory sign
- cause
 - space occupying lesion
 - other causes - skull base bone deformity, connective tissue disease, AVM, dural AVF, genetic cause of neuropathy or nerve hyper excitability

Pain attributed to lesion or disease of trigeminal nerve (ICHD-III)

Trigeminal neuralgia

Classic trigeminal neuralgia

- Purely, **Typical** paroxysmal
- concomitant continuous pain

Secondary trigeminal neuralgia

- attributed to...
- Multiple sclerosis
- Space occupying lesion
- Other cause

Idiopathic trigeminal neuralgia

- Purely, paroxysmal
- concomitant continuous pain

Painful trigeminal neuropathy

- Herpes zoster
- Post-herpetic neuralgia
- Post-traumatic
- Other disorder
- Idiopathic

Painful trigeminal neuropathy

- Facial pain in the distribution of trigeminal nerve branch by another disorder and indicative of neural damage
- Pain is continuous or nearly continuous squeezing burning, pin and needle (common), may superimposed by brief pain paroxysms
- Positive (allodynia, hyperalgesia) and negative (hypaesthesia, hypalgesia)
- Causes: herpes zoster, MS, space-occupying lesion, systemic disease

Case 2.



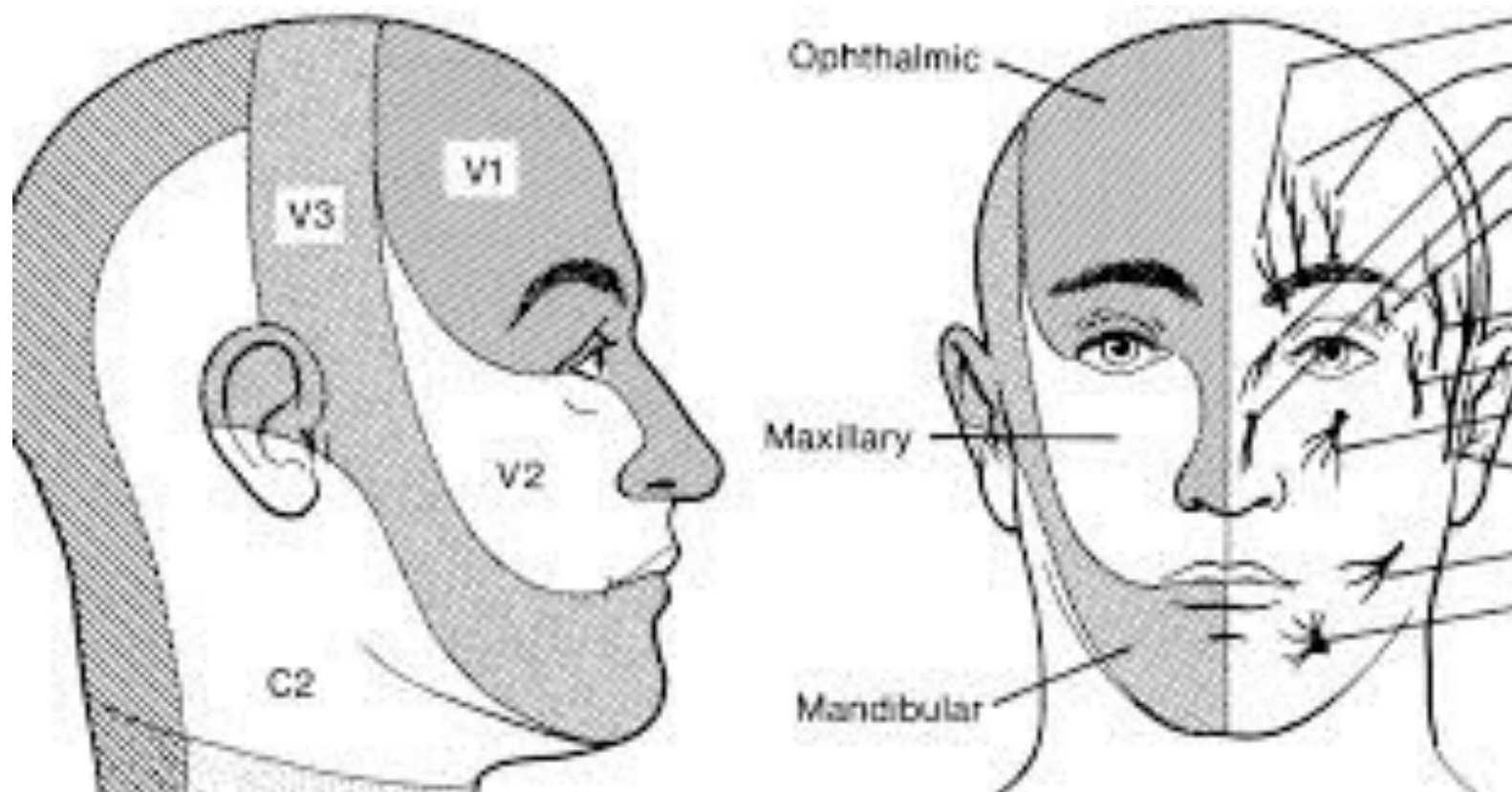


Classic trigeminal neuralgia, Typical	Rare	Intraoral or extraoral in trigeminal region	Each episode of pain lasts for seconds to minutes; refractory periods, and long periods of no pain	Sharp, shooting, moderate to very severe	Light touch provoked (e.g., eating, washing, talking)	Discrete trigger zones
Atypical trigeminal neuralgia	Rare	Intraoral or extraoral in trigeminal region	Sharp attacks lasting seconds to minutes, more continuous-type background pain, less likely to have complete pain remission	Sharp, shooting, moderate to severe but also dull, burning, continuous mild background pain	Light touch provoked, but continuous-type pain not so clearly provoked	May have small trigger areas, variable pattern
Trigeminal neuropathy	Very rare	Trigeminal area, but may radiate beyond	Continuous	Dull with sharp exacerbation	Areas of allodynia, light touch	Sensory loss, subjective-objective, progressive, vasodilation and swelling may occur

Adapted from Essentials of physical medicine and rehabilitation: musculoskeletal disorders, pain, and rehabilitation/ [edited by] Walter R. Frontera, Julie K. Silver, Thomas D. Rizzo Jr. —2nd ed. Chapter 90.

Cranial neuralgia other than trigeminal nerve distribution

Supraorbital neuralgia



Nervus intermedius neuralgia

Trigeminal neuralgia

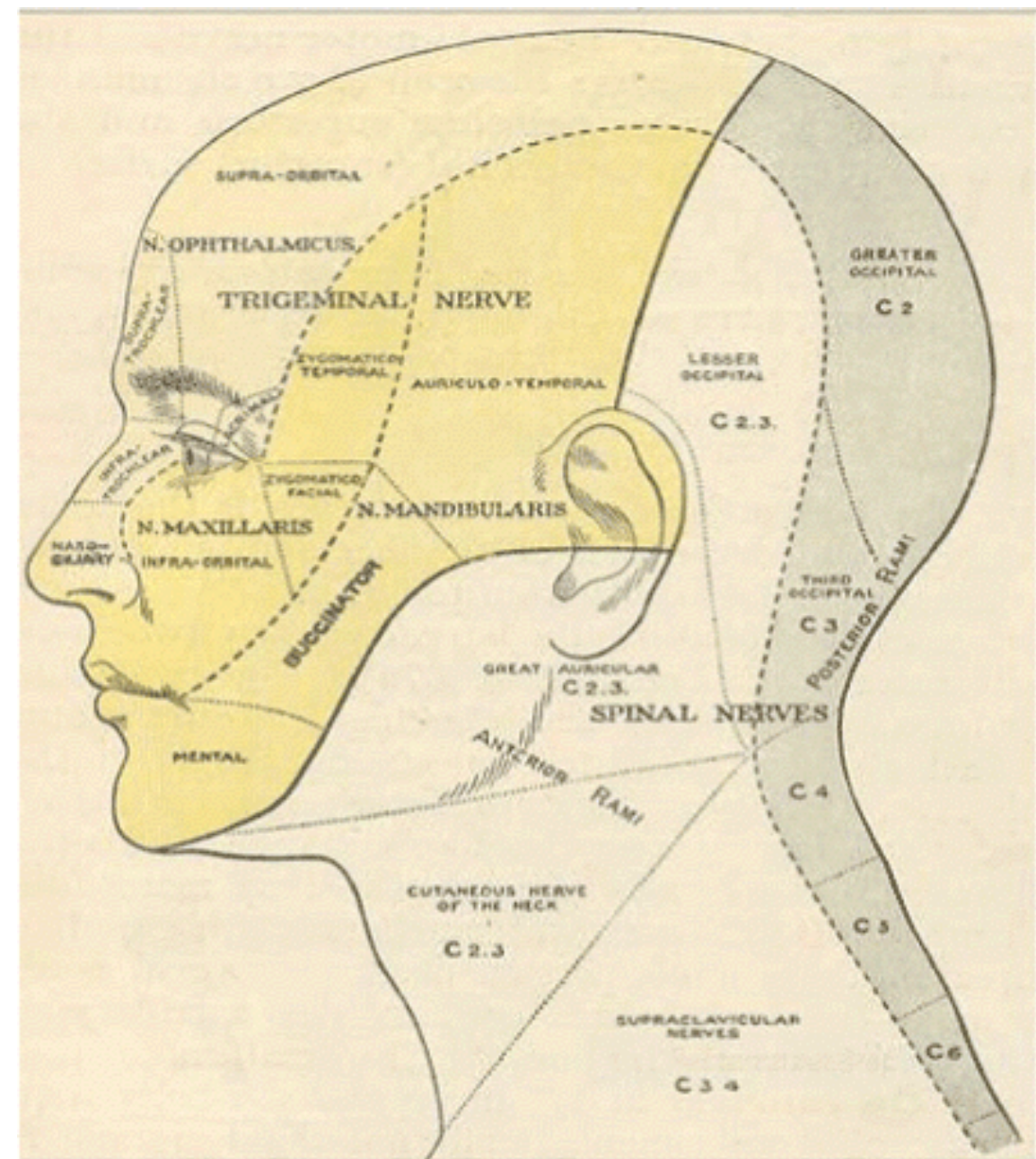
Glossopharyngeal neuralgia

Trigeminal neuralgia
Trigeminal neuropathy

Other neuralgia

Trigeminal autonomic
neuralgia (TACs)

Other facial pain



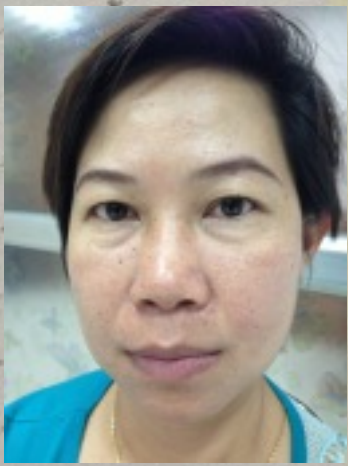
Persistent Idiopathic Facial Pain (PIFP) or Atypical facial pain

- Description:
- Persistent facial and/or oral pain, with varying presentations but recurring daily for more than 2 hours/day over more than 3 months, in the absence of clinical neurological deficit.
- Pain characters:
 - poorly localized, and not following the distribution of a peripheral nerve
 - dull, aching or nagging quality
- Diagnostic by exclusion

Facial pain other than neuralgia

Trigeminal Autonomic Cephalalgias

- A group of primary headache characterised by strictly unilateral headache pain that occurs in association with ipsilateral cranial autonomic features
 - Cluster headache (CH)
 - Paroxysmal hemicrania (PH)
 - Short-lasting unilateral neuralgiform headache attack with conjunctival injection and tearing/cranial autonomic features (SUNCT/SUNA)
 - Hemicrania continua (HC)



History of illness

ปลอดภัย: เป็นๆ ทนๆ 2-3 ปี ลึกๆ: ได้ขากัน
แต่ไม่รวดเร็ว.

สุขภาพจิต (สุขภาพกาย)

เจ็บตัว: เป็นปกติ.

ด้วยจิตใจที่ 3.

✓ ด้วย ทน 3 ปี ก่อ - ปลอดภัย คล้ายใจจริง ทน ทน 4
"สุขภาพจิต" น้ำใจ. ออก. ออก.
น้ำใจ ?? =

เป็นวิเศษ สู้ด้วย ด้วย ทน 5-10 ด้วย
ทน 100.

วัน:

25-10 ด้วย
วัน.

ด้วย: รนทร
อยู่ไม่สุข.

ด้วย 3 - 1 เดือน.

รวมแล้ว 100

111

น้ำใจใน
ทอน 100
สิ่งเดียว 110.

✓ ด้วย 2 4-5 เดือน -

- มี
Sense of
aware
fullness
ตัว

ปลอดภัย เรวกว่า และ ดีกว่า. = ทน 100
น้ำใจใน

ด้วย 5-10 ด้วย
มี คลื่นใจ 100 ด้วย

ด้วย 100 ด้วย
ด้วย 100 ด้วย

ด้วย 100 ด้วย
ด้วย 100 ด้วย

TACs subtypes

	Cluster Headache	Paroxysmal Hemicrania	SUNCT
Sex F:M	1:3.5 to 7	2.13 to 2.36:1	1:1.2
Pain			
Type	Stabbing, boring	Throbbing, boring, stabbing	Burning, stabbing, sharp
Severity	Excruciating	Excruciating	Severe to excruciating
Site	Orbit, temple	Orbit, temple	Periorbital
Attack frequency	1/alternate day –8/day	1 to 40/day (>5/day for more than half the time)	3 to 200/day
Duration of attack	15 to 180 minutes	2 to 30 minutes	5 to 240 seconds
Autonomic features	Yes	Yes	Yes (prominent conjunctival injection and lacrimation)
Migrainous features*	Yes	Yes	Very rarely
Alcohol trigger	Yes	Occasional	No
Cutaneous triggers	No	No	Yes
Indomethacin effect	–	++	–
Abortive treatment	Sumatriptan injection or nasal spray	Nil	Nil
Prophylactic treatment	Oxygen Verapamil Methysergide Lithium	Indomethacin	Lamotrigine Topiramate Gabapentin

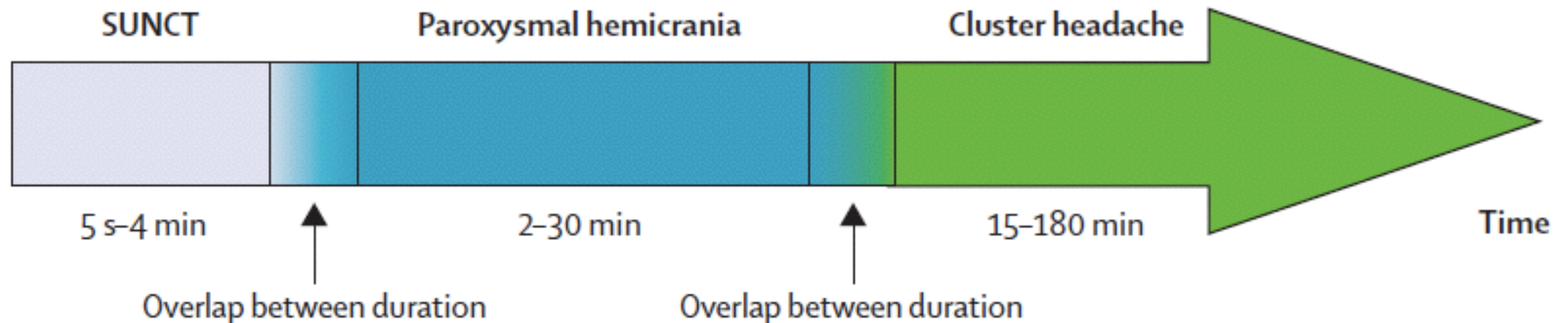
Prevalence

56/100,000

Very rare, not known

Very rare, not known

Overlap between attack duration in trigeminal autonomic cephalalgias



Leone M, Bussone G. *Lancet Neurol* 2009; 8: 755–64

“Longer name, shorter duration”

***Paroxysmal
hemicrania***

Clinical feature

- Side, location, severity, character of pain
- ophthalmic distribution, can be extra-trigeminal- occiput, neck, **shoulder, arm**
- strictly unilateral and without side shift
- excruciating pain

Attacks are prevented completely by therapeutic doses of indomethacin



Indomethacin test

oral indomethacin should be initiated at 25 mg tid.



if no or partial response

increase to 50 mg tid.
10 days



if no or partial response

increase to 75 mg tid.
10 days

Abdomen: ☐ WNL

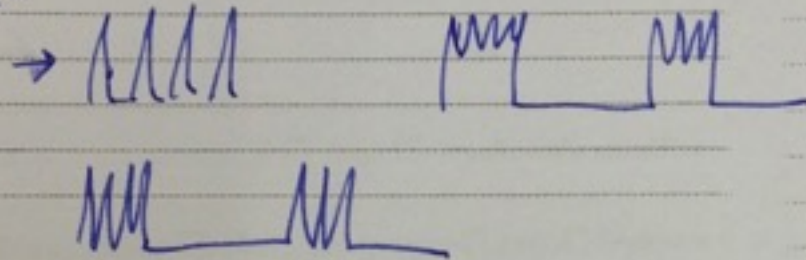
Neuro: ☐ WNL

Extremities: ☐ WNL

Others :

Additional graphic and for abnormal finding

(1)



Diagnosis:

ประเมินผลการรักษา(กรณีโรคเรื้อรัง) ☐ Good ☐ Fair ☐ Poor(uncontrolled)

ปัญหาในการควบคุมโรค

Rx TACs.

Investigation

Indomethacin
(25)

ผลการตรวจ

1x3 gm

- 7/10/20

1x1 gm

นัด . 1 week

จันทร์ 15/10

☐ ทำหัตถการ

Short operative note

Medication

คำแนะนำเกี่ยวกับการปฏิบัติตัวหรือการสังเกตอาการ
เกี่ยวกับการรับประทานยา

Follow Up ☐ ไม่นัด ☐ นัดวันที่

☐ Refer

☐ ส่งปรึกษาแผนก

แผนกการรักษาต่อเนื่อง ☐ นัดมาประเมินผล

☐ ปรับขนาดยาตามอาการทางคลินิก ☐ นัดมาผ่า

☐ นัดมาฉายแสง ☐ นัดมาเพื่อ

ส่งตรวจ lab / X-rays ก่อนพบแพทย์ (ระบุ)

แพทย์

1 week After Indomethacin test



“Paroxysmal Hemicrania”

Indomethacin responsive headache

- Paroxysmal hemicrania
- Hemicrania continua
- Hypnic headache
- Primary exertional headache
- Primary cough headache
- Primary stabbing headache (jabs and jolts syndrome)
- Primary headache associated with sexual activity

Unclear mechanism:
inhibit Nitric oxide??

SUNCT/SUNA

SUNCT criteria

Diagnostic criteria:

- A. At least 20 attacks fulfilling criteria B–D
- B. Moderate or severe unilateral head pain, with orbital, supraorbital, temporal and/or other trigeminal distribution, lasting for 1–600 seconds and occurring as single stabs, series of stabs or in a saw-tooth pattern
- C. At least one of the following cranial autonomic symptoms or signs, ipsilateral to the pain:
 - 1. conjunctival injection and/or lacrimation
 - 2. nasal congestion and/or rhinorrhoea
 - 3. eyelid oedema
 - 4. forehead and facial sweating
 - 5. forehead and facial flushing
 - 6. sensation of fullness in the ear
 - 7. miosis and/or ptosis
- D. Attacks have a frequency of at least one a day for more than half of the time when the disorder is active
- E. Not better accounted for by another ICHD-3 diagnosis.

Short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT) or cranial autonomic features (SUNA)—a prospective clinical study of SUNCT and SUNA

43 SUNCT and 9 SUNA were studied

Anna S. Cohen, Manjit S. Matharu and Peter J. Goadsby

Table 2 Associated cranial autonomic symptoms*

	SUNCT	SUNA	CH** (%)
Conjunctival injection	43 (100%)	2 (22%)	77
Lacrimation	43 (100%)	3 ipsilateral, 1 contralateral (44%)	91
Nasal blockage	17 (40%)	2 (22%)	75
Rhinorrhoea	23 (53%)	2 (22%)	72
Eyelid oedema	21 (49%)	1 (11%)	74
Ptosis	22 (51%)	3 (33%)	74
Facial flushing	2 unilateral, 2 bilateral (9%)	1 (11%)	
Sweating	2 unilateral, 1 bilateral (7%)	1 bilateral (11%)	
Other	4 (9%)	3 (33%)	

*By definition, 100% of SUNCT patients had both conjunctival injection and lacrimation and no patients with SUNA had both;
**CH, cluster headache (after Bahra et al., 2002).

Pain (Verbal Rating Scale from 0 to 10)

1. Single stabs 2. Each attack is a group of stabs 3. Saw-tooth pattern

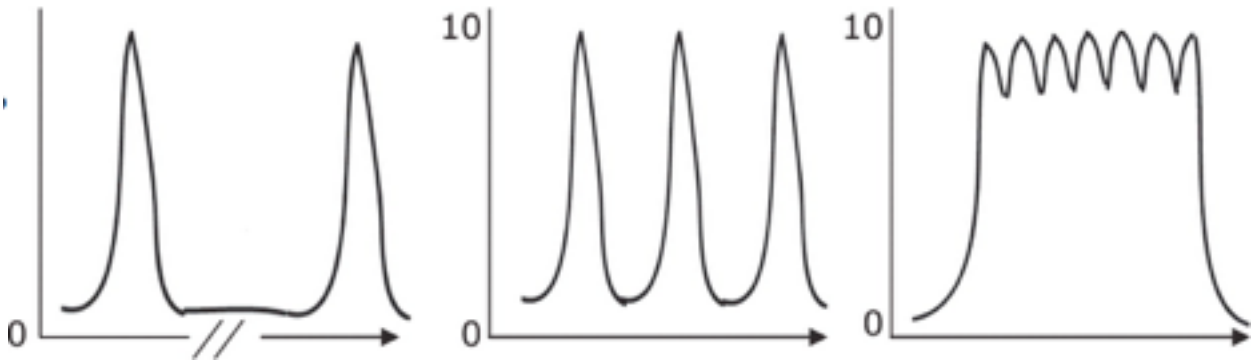
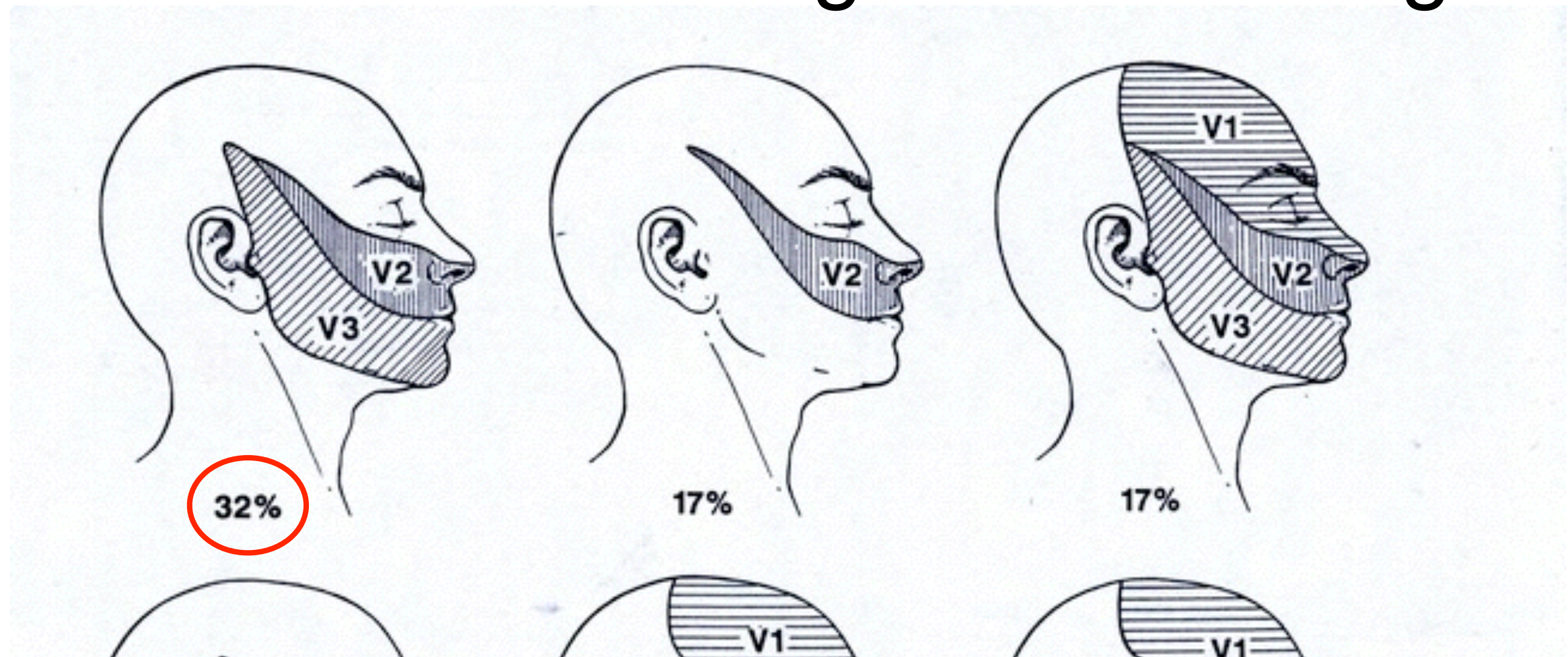


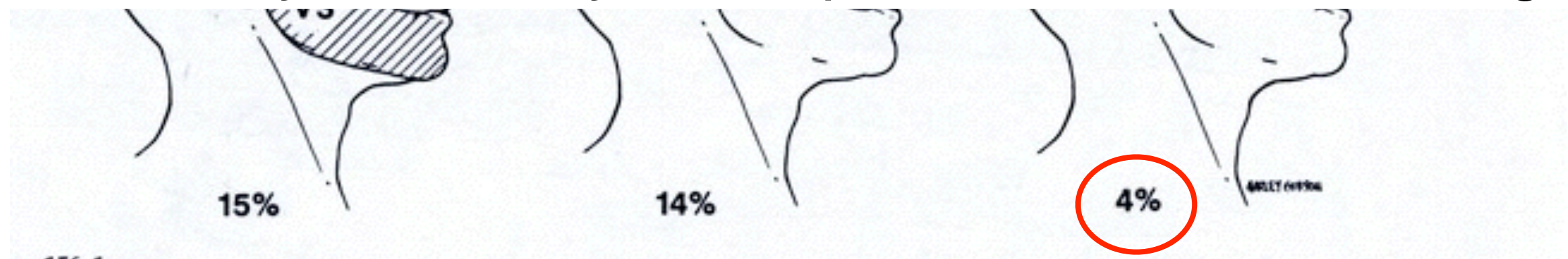
Table 3 Length of attacks and number of attacks per day, and attack load in minutes per day

Attack length	Single stab (s)	Stab groups (s)	Saw tooth (s)	Number of attacks/day	Attack load per day (min)
Mean	58	396	1160	59	139
Median	10	300	285	20	47
Range	1–600	10–1200	5–12 000	2–600	2–1350

Great mimicker: Trigeminal neuralgia



67% of patient has at least 1 autonomic symptom
V1 - conjunctival injection, ptosis, excessive tearing



SUNCT vs Trigeminal neuralgia

SUNCT: very short duration of attack, precipitate attacks by touching certain trigger zones within trigeminal innervated

TN: very short duration, can be V1 +/- autonomic distribution

Feature	SUNCT	Trigeminal neuralgia
Sex ratio (male: female)	2.1:1	1:2
Site of pain	V1	V2/3
Severity of pain	Moderate to severe	Very severe
Duration (seconds)	5–250	<1
Autonomic features	Prominent	Sparse or none
Refractory period	Absent	Present
Response to carbamazepine	Partial	Complete

Other primary headache that mimic TN

- **Primary stabbing headache** ;- previous term Ice-pick pains; jabs and jolts; needle-in-the-eye syndrome; ophthalmodynia period- ica; sharp short-lived head pain
- Transient and localized stabs of pain in the head that occur spontaneously in the absence of organic disease of underlying structures or of the cranial nerves
- Involve extra-trigeminal region in 70%
- 80% of stabs last three seconds or less; rarely, stabs last for 10–120 seconds.
- Common in migraine

NNC CMU

Thank you for your
attention