Headache

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Exeter

Outline of talk

- Classification of headache
- Epidemiology and impact
- Headaches not to miss at presentation
- The primary headaches
- Tips for the ten minute consultation

Where does the pain come from?
Intra – cranial (dural pain fibres)

- Tension – raised intracranial pressure
- Compression – tumour
- Inflammation - migraine,meningitis,blood

Where does the pain come from?
Extra - cranial

- Arteritis
- Neuralgia
- Muscle tension
- Facial structures

IHS Headache classification

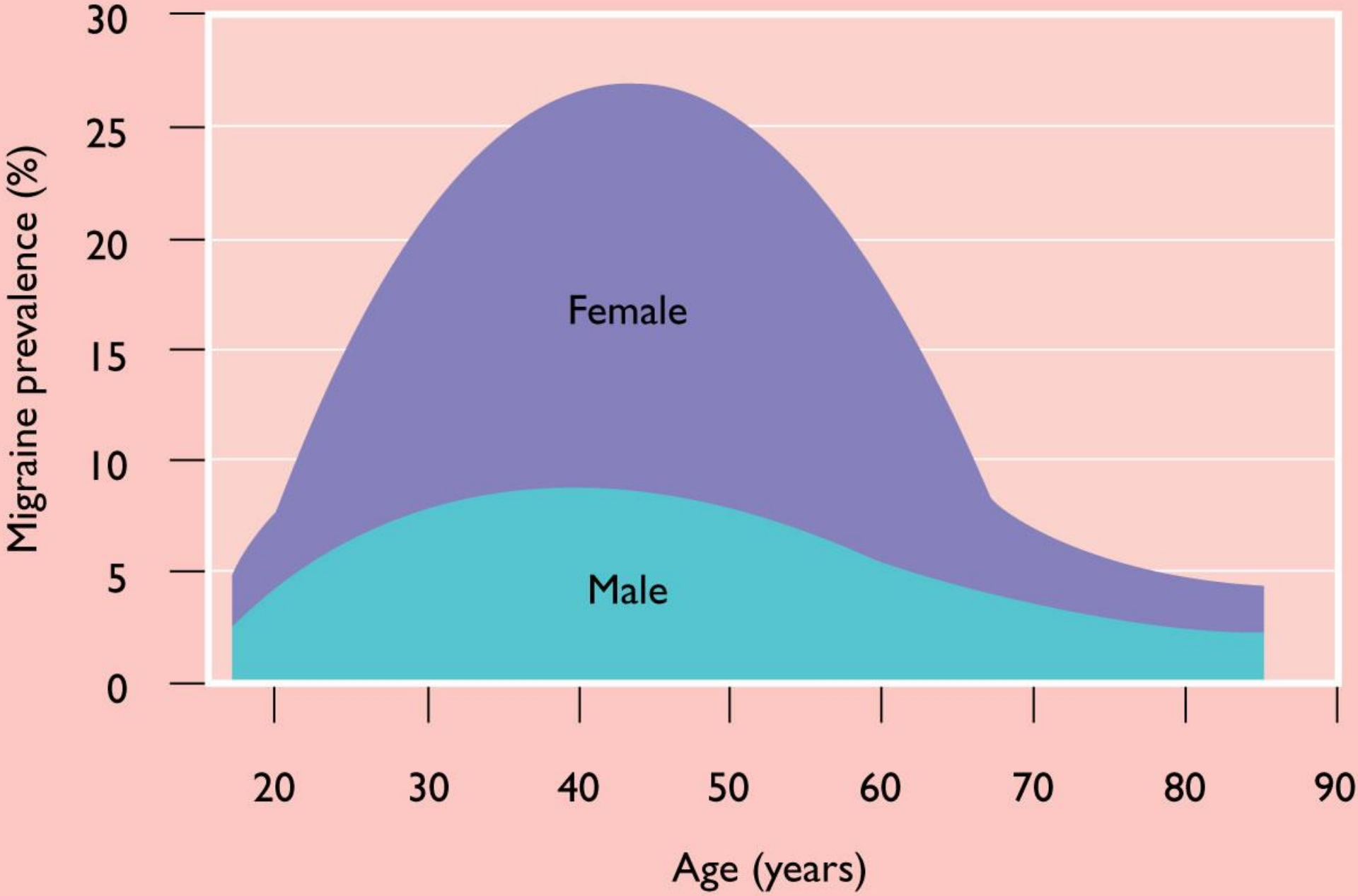
Primary

- Migraine
- Tension type
- Autonomic cephalalgias (cluster)

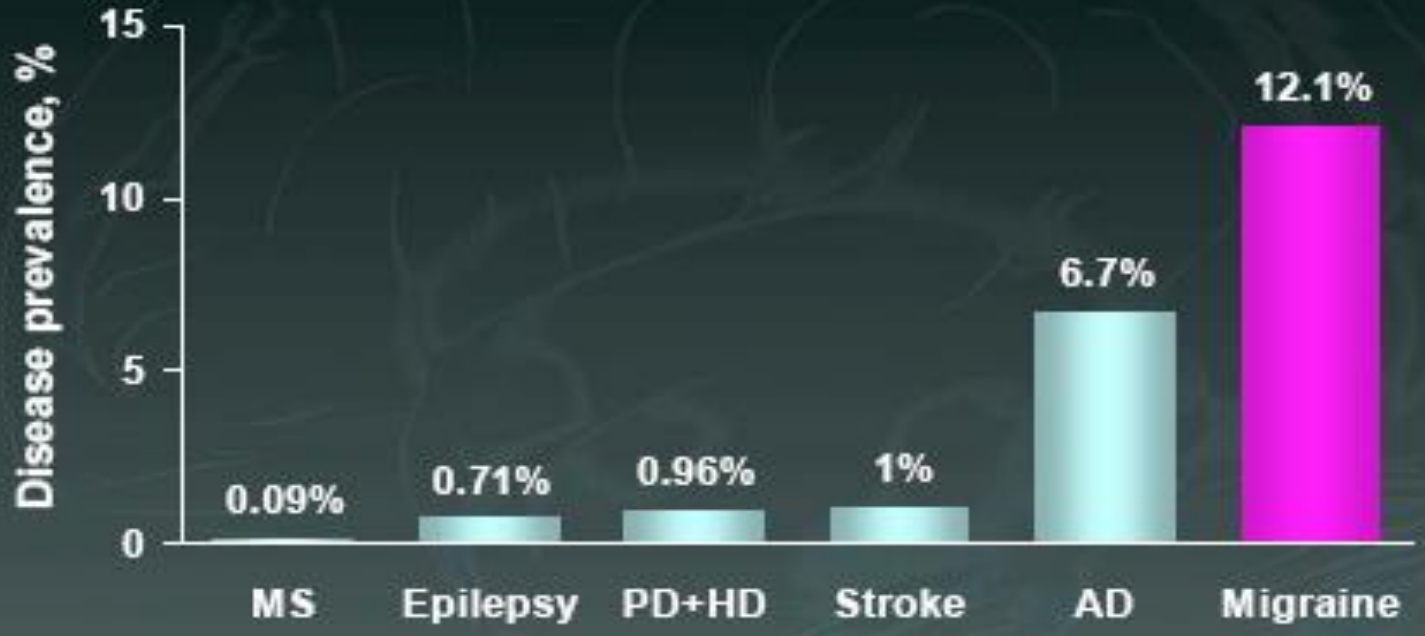
Secondary

- Traumatic
- Vascular
- Non-vascular (SOL)
- Substance induced
- Infection
- Disturbed homeostasis
- Facial structures

Epidemiology and impact of headache


Migraine prevalence (%)
30
25
20
15
10
5
0
Female
Male
20
30
40
50
60
70
80
90
Age (years)

Migraine Prevalence Compared With Other Neurologic Diseases



MS = multiple sclerosis; PD+HD = Parkinson's disease + Huntington's disease; AD = Alzheimer's disease.

Adapted from Hirtz D. et al. *Neurology*. 2007;68:326–337.

National Institute of Neurological Disorders and Stroke. Available at: www.ninds.nih.gov. Accessed May 17, 2007.

Impact of migraine

- In top 20 of WHO disability index
- 1000,000 people loose work or school each day
- Over £2 billion cost p.a. in absenteeism

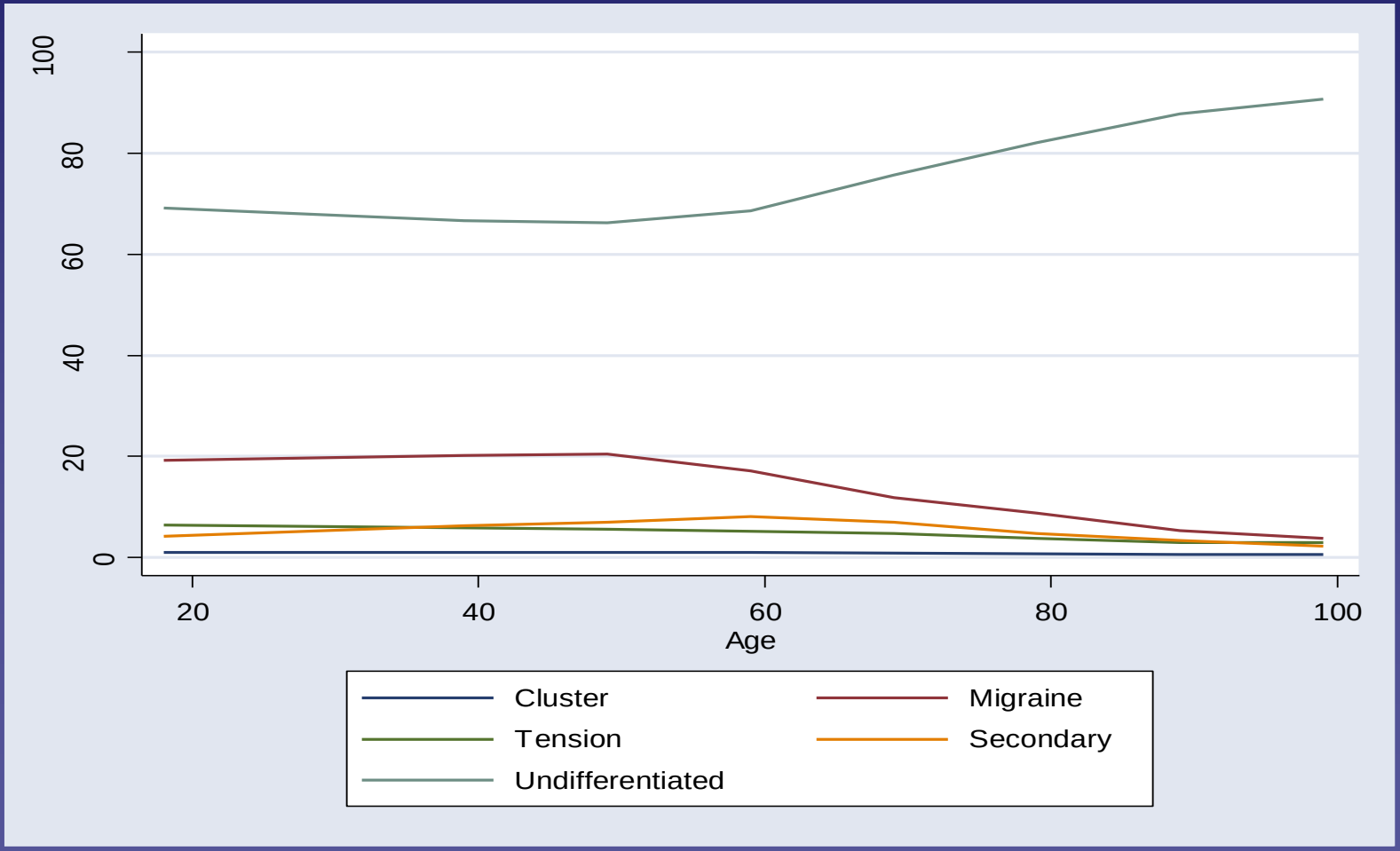
Steiner 2003

What do people think when they present with headache?

- I need glasses (<1% headache due to undiagnosed refractive errors)
- Its my blood pressure
- I have a tumour (1 in 1000 risk)

What do GPs think when patients present with headache?

(Kernick 2008)



What do patients have when they present with headache?

- 80% migraine
- 15% Tension type headache
- 5% secondary headache
- <1% other types of headache

In practice

- Headache significant socioeconomic impact
- Less than 50% migraineurs seek help
- Not well managed in primary care
- 30% neurology consultations are for headache

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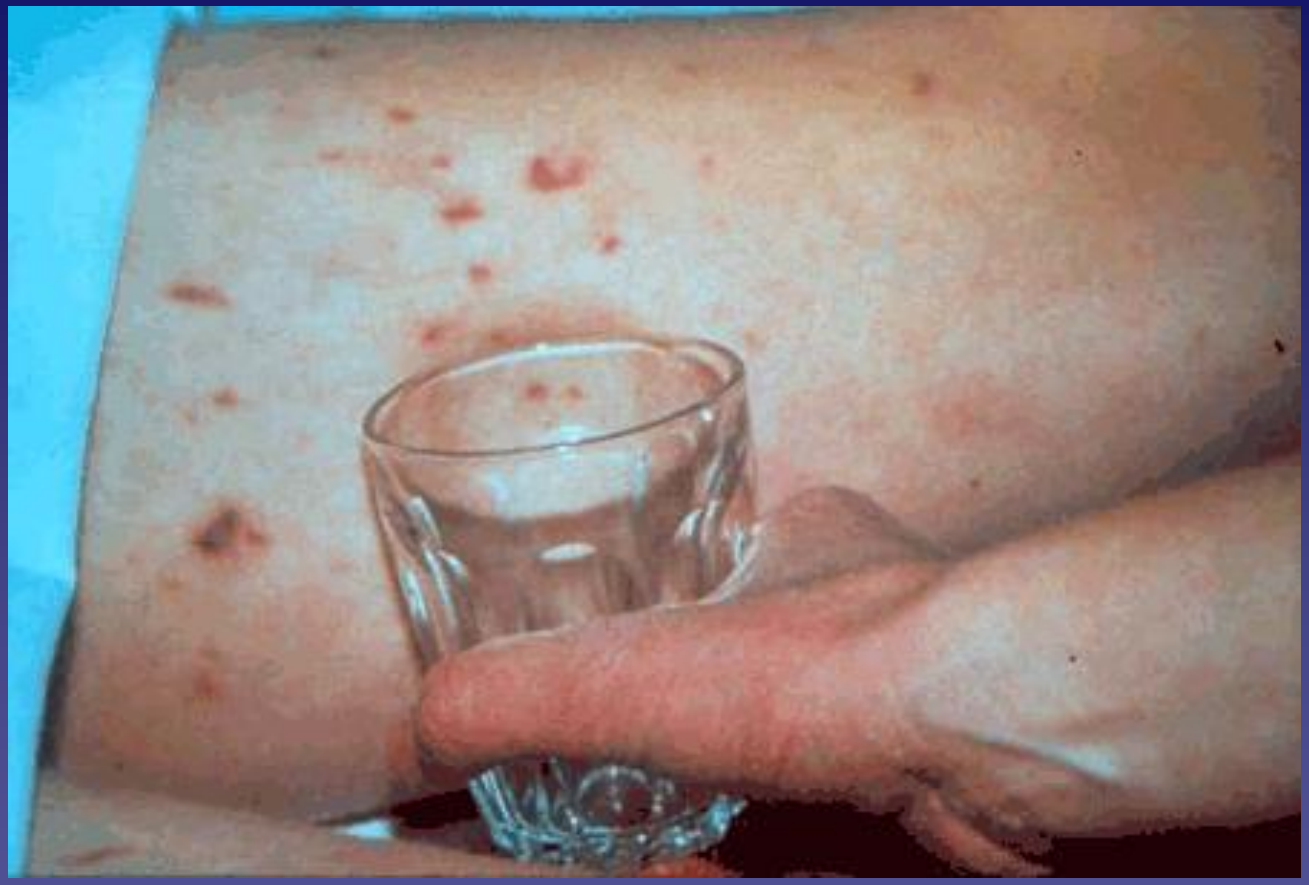
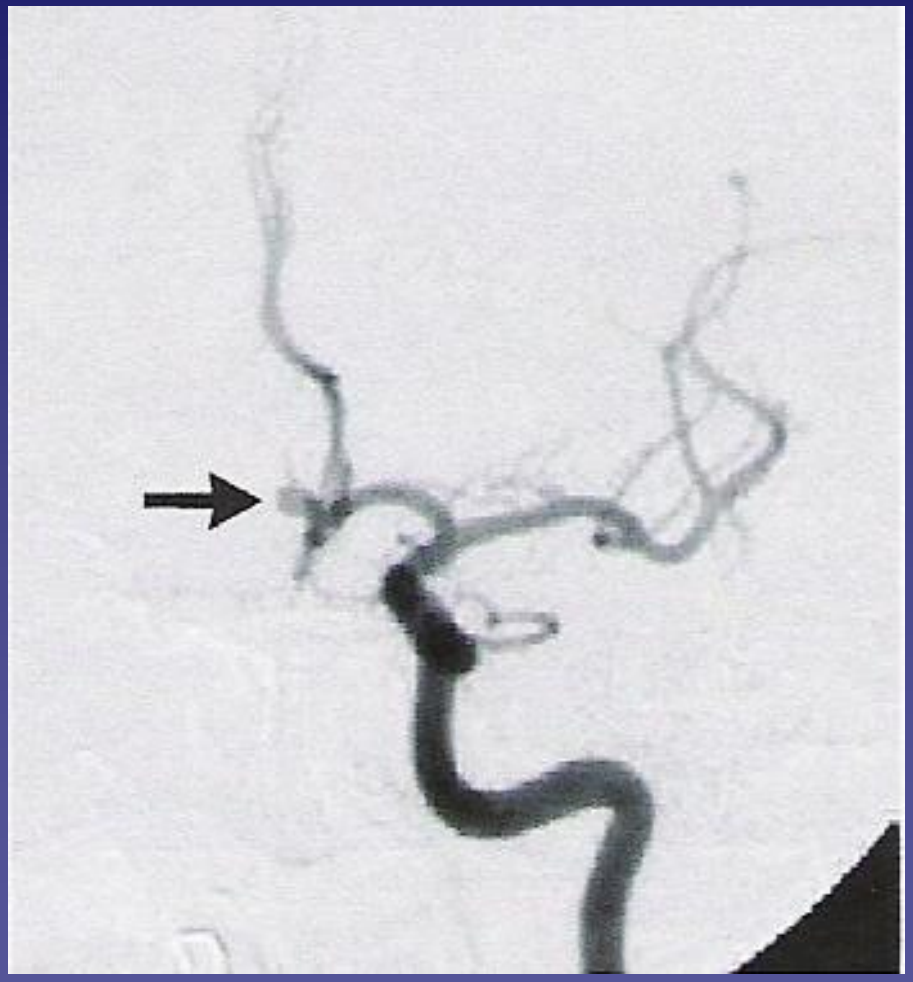
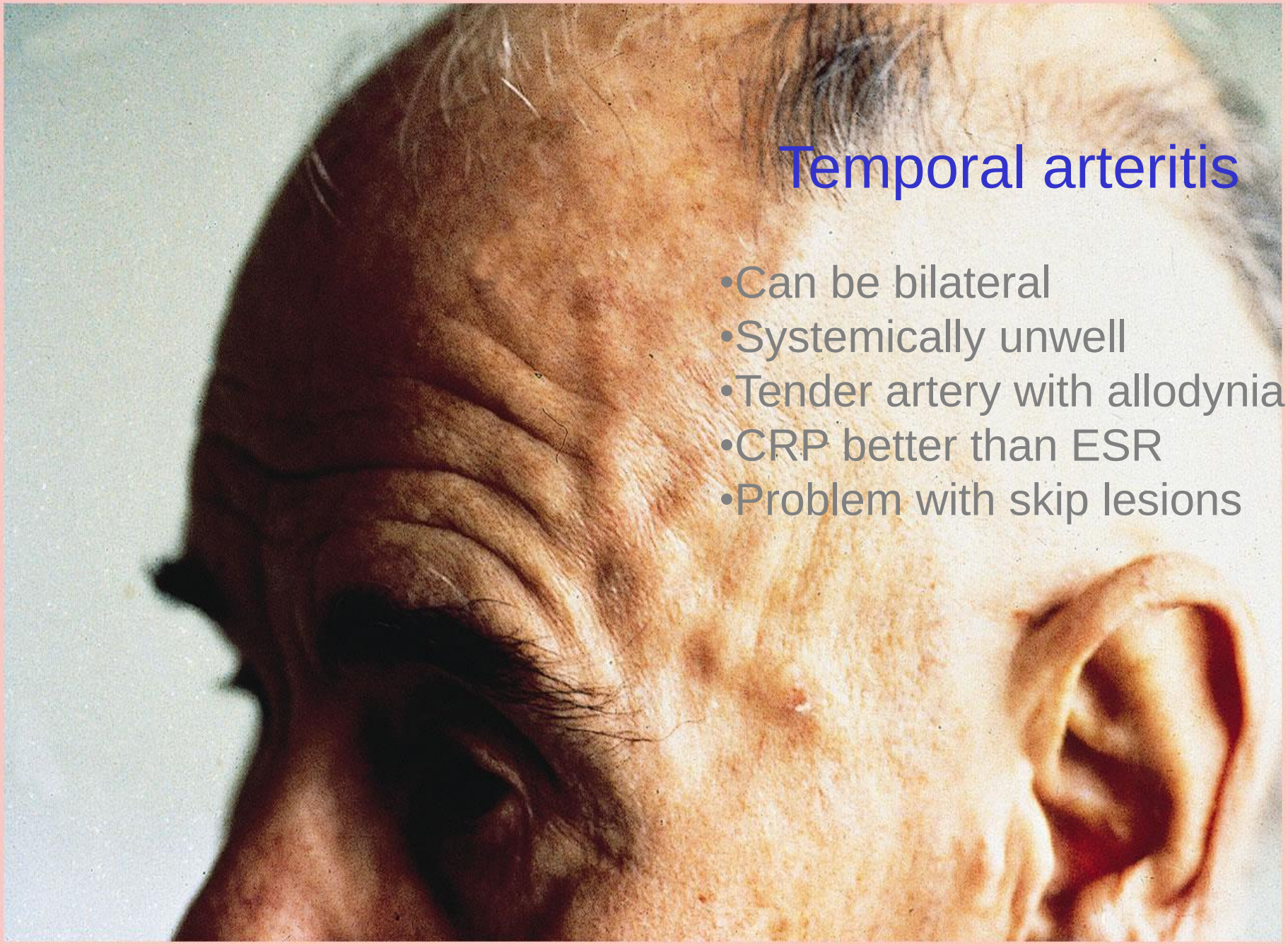


Meningitis

Sub Arachnoid - thunderclap headache

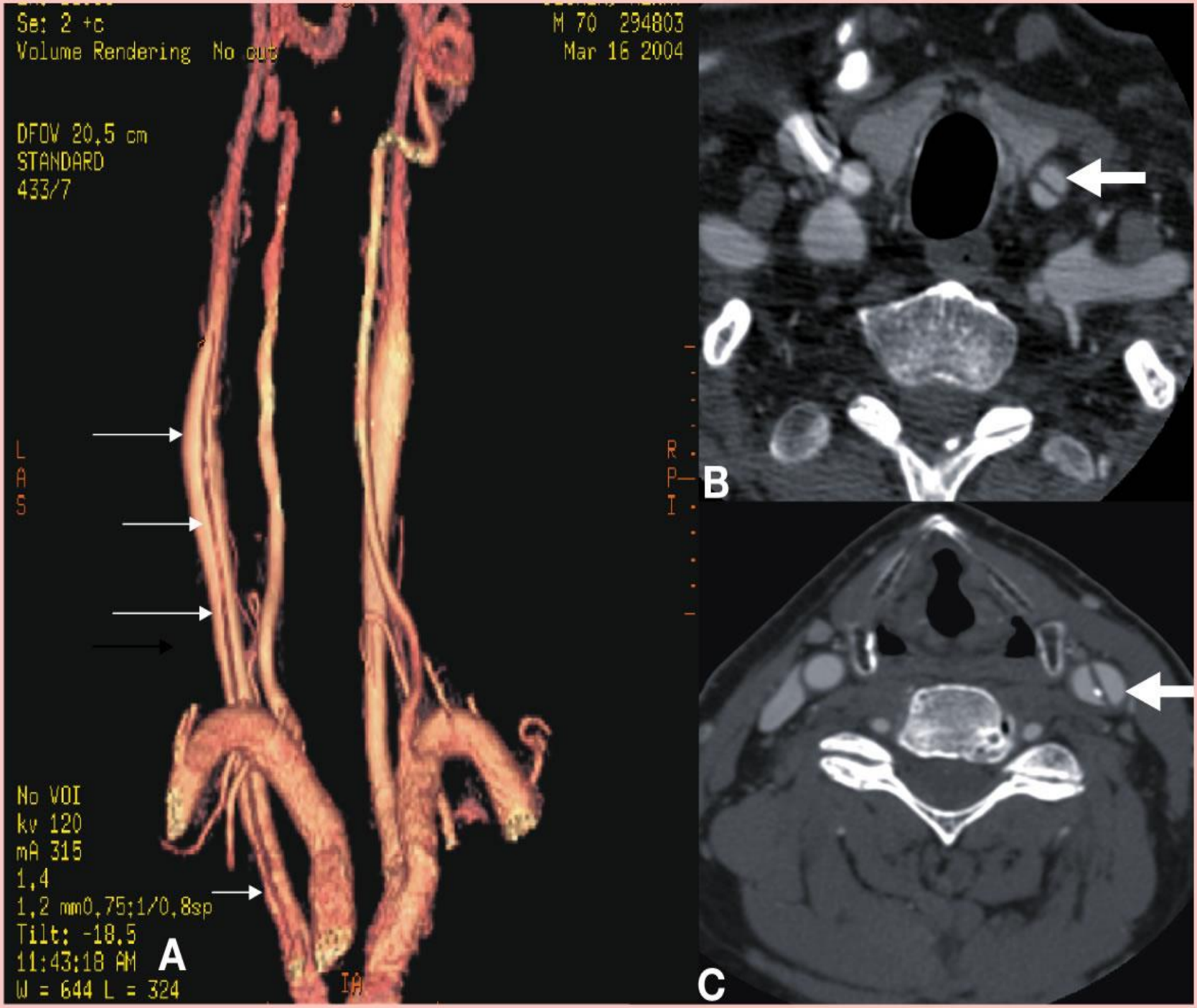




Temporal arteritis

- Can be bilateral
- Systemically unwell
- Tender artery with allodynia
- CRP better than ESR
- Problem with skip lesions

Malignant hypertension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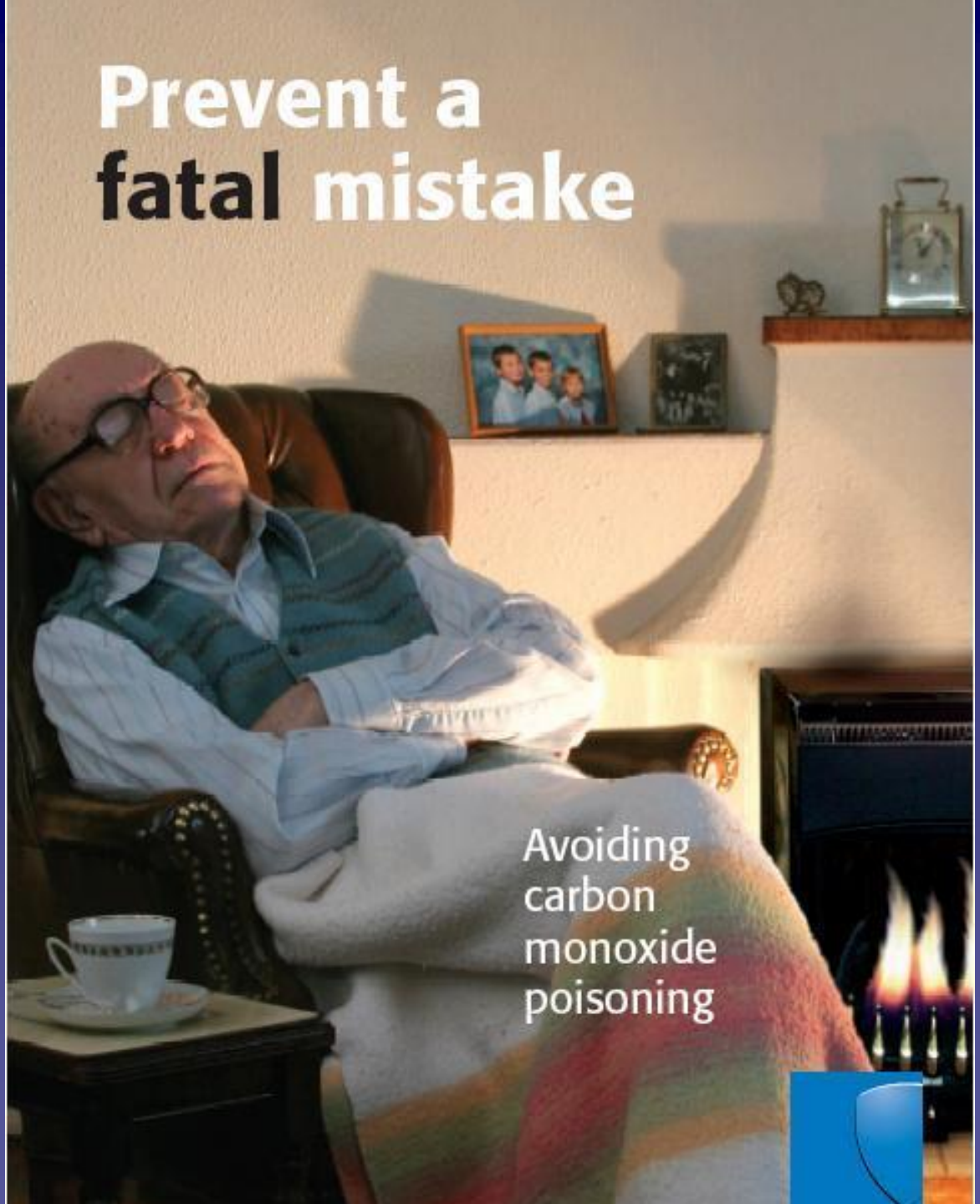
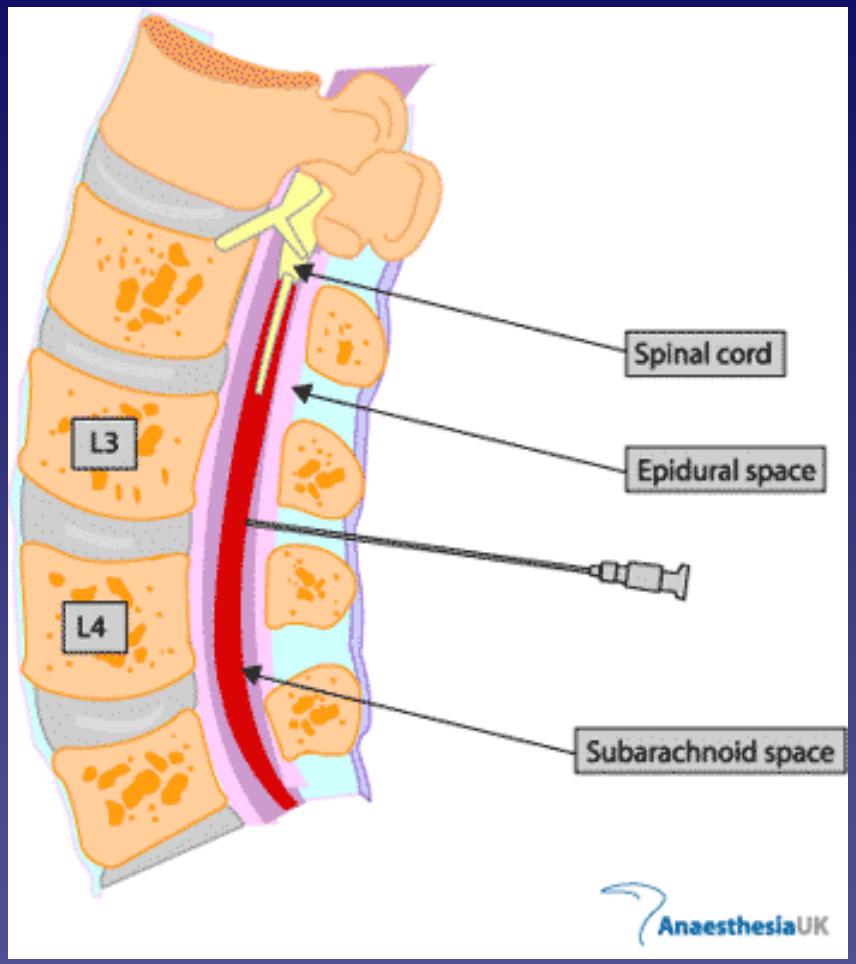
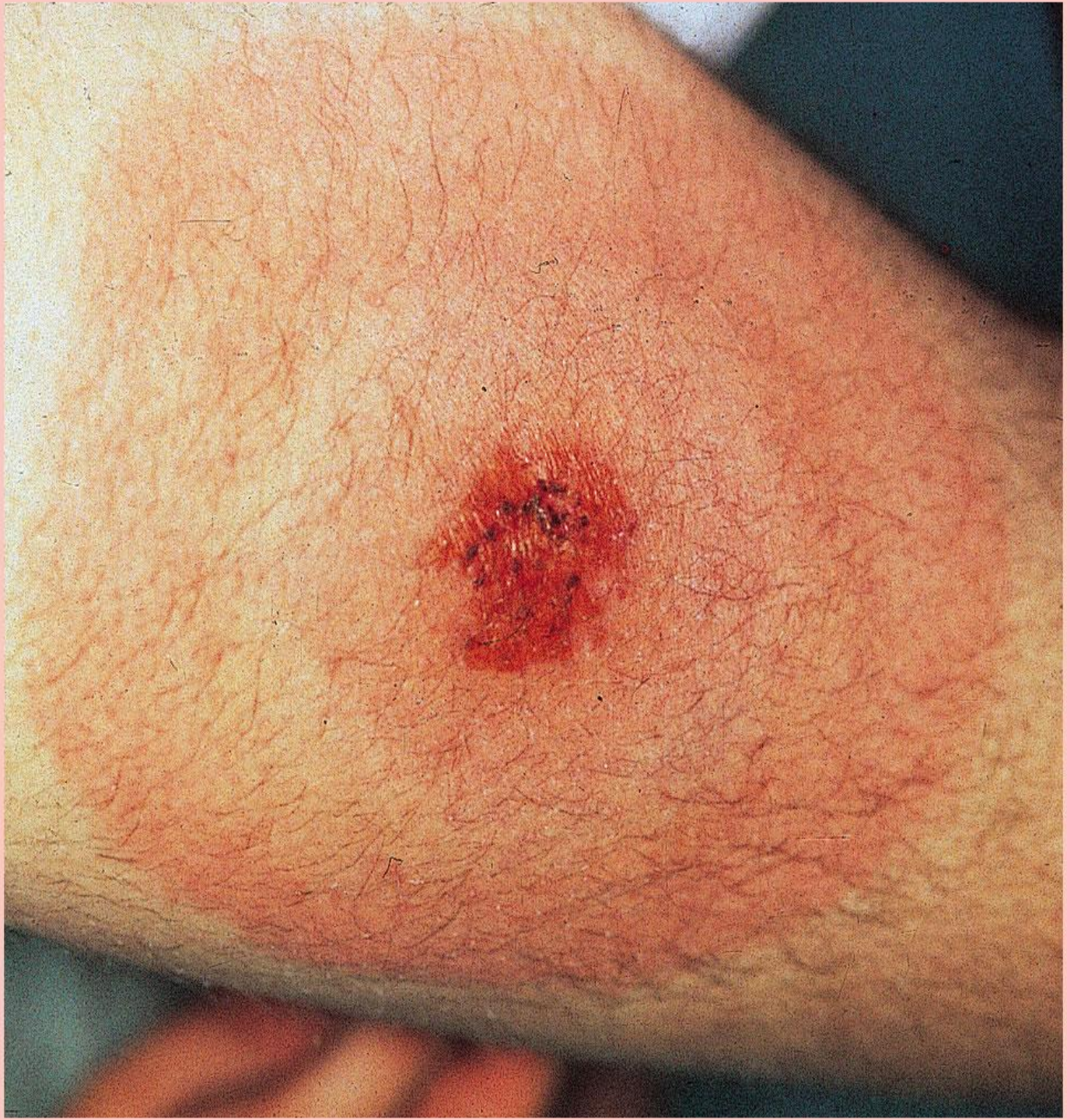
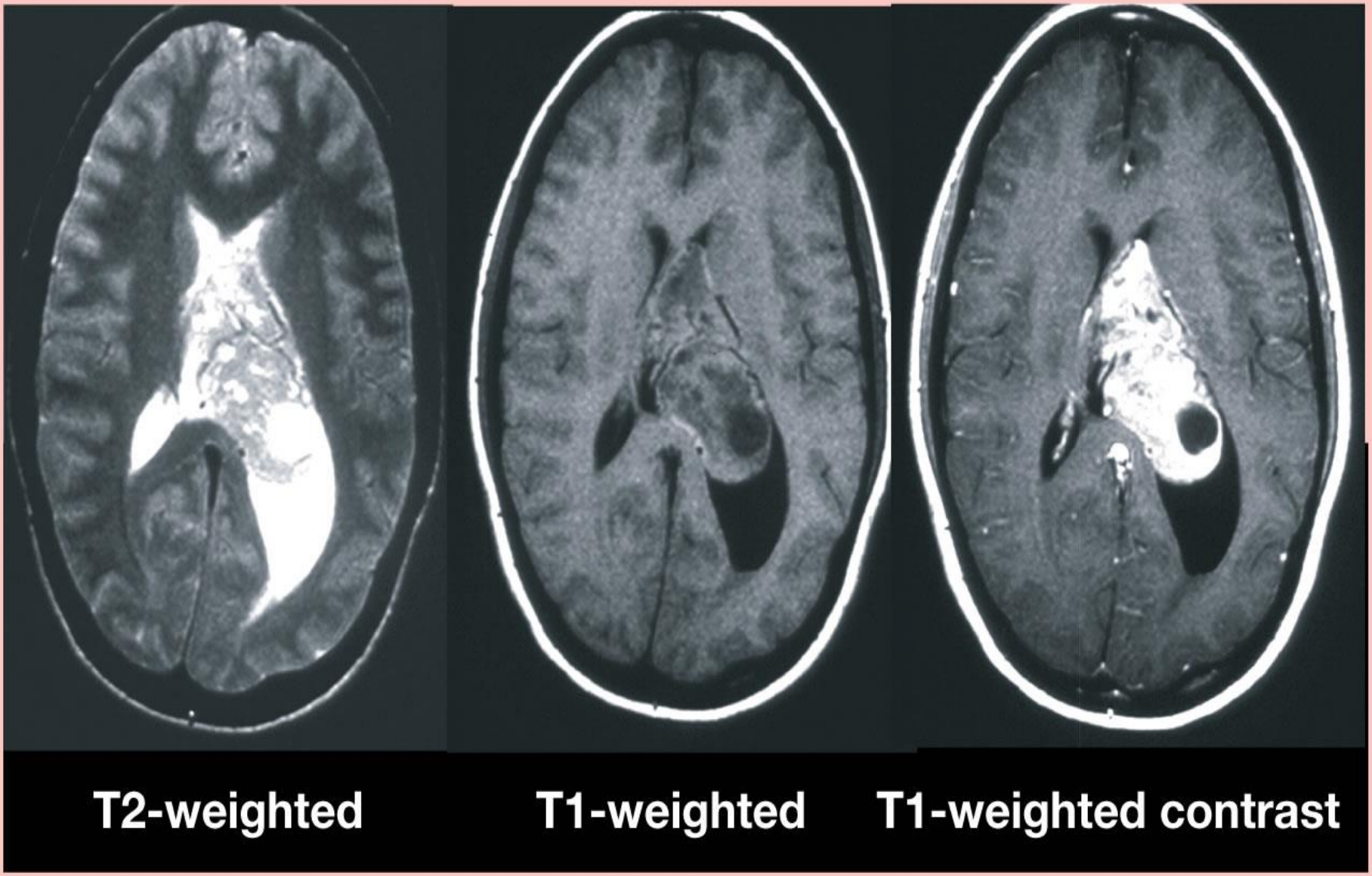

Prevent a
fatal mistake
Avoiding
carbon
monoxide
poisoning



Disorders of CSF pressure




T2-weighted
T1-weighted
T1-weighted contrast

Primary Tumours

- Meningioma 20% - 10 yr survival 80%
- Glioma 70% - 5yr survival 20%
- Misc10% - Non malignant
- Don’t forget secondary tumours

Some tumour risks

Kernick, Hamilton 2008

- Population 10/100,000 p.a.

- Headache presenting to primary care
  1 in 1000

Above 50 years 3 in 1000

Below 30 years 0.3 in 1000

Headache and tumour

- Headache prevalence with tumour 70%+
- Headache at presentation 50%
- Headache alone at presentation 10%

(Iverson 1987)

Why not scan everyone?

Identify significant pathology
Reassurance

Cost
Identify incidental pathology

VOMIT syndrome, Hayward 2003

Red Flags

Probability >1%.
Need urgent investigation

- Abnormal neurological examination
- Papilloedema
- New cluster type headache
- History of cancer elsewhere

Kernick et al 2008

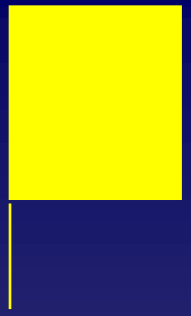
K
e

Orange Flags

Probability is likely to be 0.1% and 1%.

Need careful monitoring

- Precipitated by Valsalva manoeuvre
- Headache with rapidly increasing frequency or changed significantly
- Awakes from sleep or on waking
- New headache over 50 years
- *If a primary headache diagnosis has not emerged in an isolated headache after 6-8 weeks*



Yellow Flags

Probability of underlying morbidity or mortality is <0.1% but above background rate.

Needs appropriate management and follow up – there are no green flags

- Diagnosis of migraine or tension type headache

To scan or not to scan?

- Think carefully why you are doing it
- Can’t go wrong with a simple examination with good record keeping
- If in doubt, follow patient up

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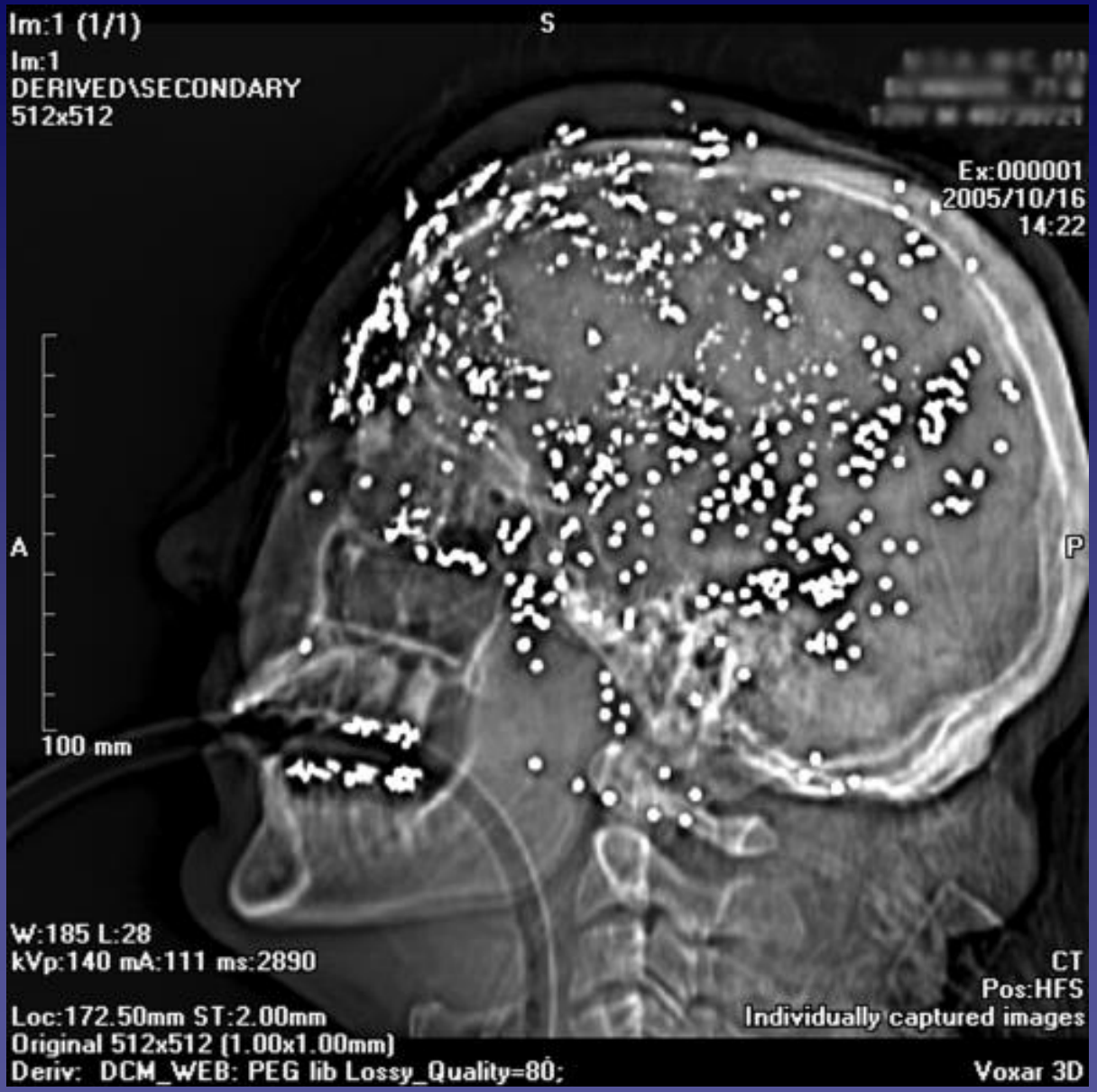
The primary headaches

- Cluster
- Tension type headache
- Migraine
- Medication overuse headache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Voxar 3D

Cluster - Autonomic Cephalopathy

- Males>Females
- 0.2% prevalence
- Later onset in life than migraine
- Invariably smokers
- 17 years to a diagnosis

Cluster – clinical features

- High impact ++
- Peri-orbital clusters 15mins - 3 hours
- Cluster attacks and periods
- Unilateral autonomic features
- Acute or chronic

Cluster treatment

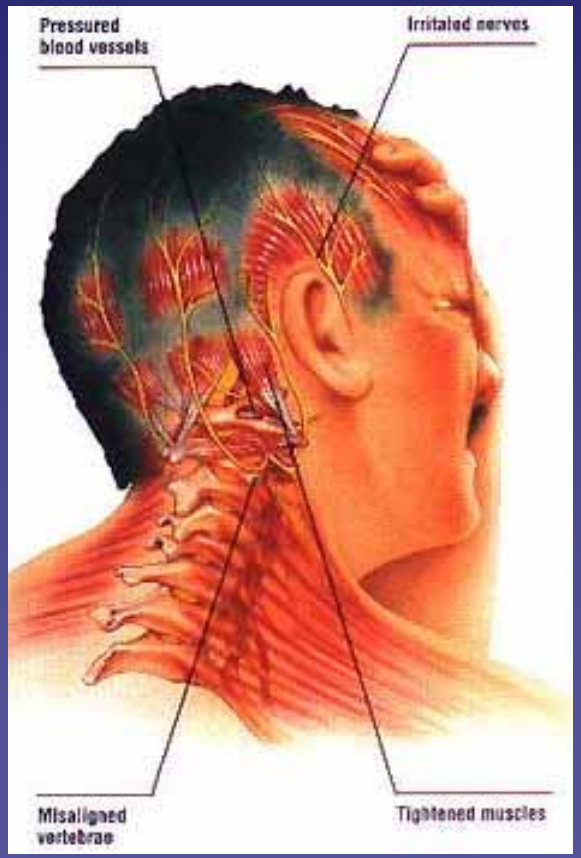
- Injectable Sumatriptan
- Nasal Zolmitriptan
- Short term steroids
- Oxygen 100%
- Verapamil

Tension type headache

Cervico-genic (degenerative change, trigger spots)

Mandibular

Anxiety-depression

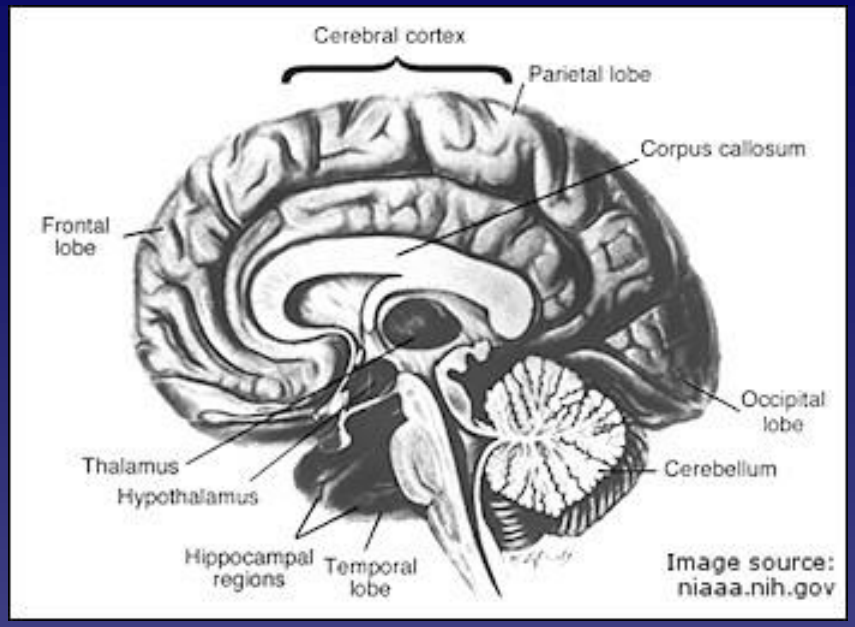


Formal Migraine

- At least 5 attacks
- 4-72 hours (*1-72 hours)*
- Two of : unilateral, pulsating, moderate or severe pain, aggregation by physical activity. *(bilateral)*
- At least one of: nausea/vomiting, photophobia, phonophobia. *(Can be inferred)*
- Not attributed to another disorder.

In practice

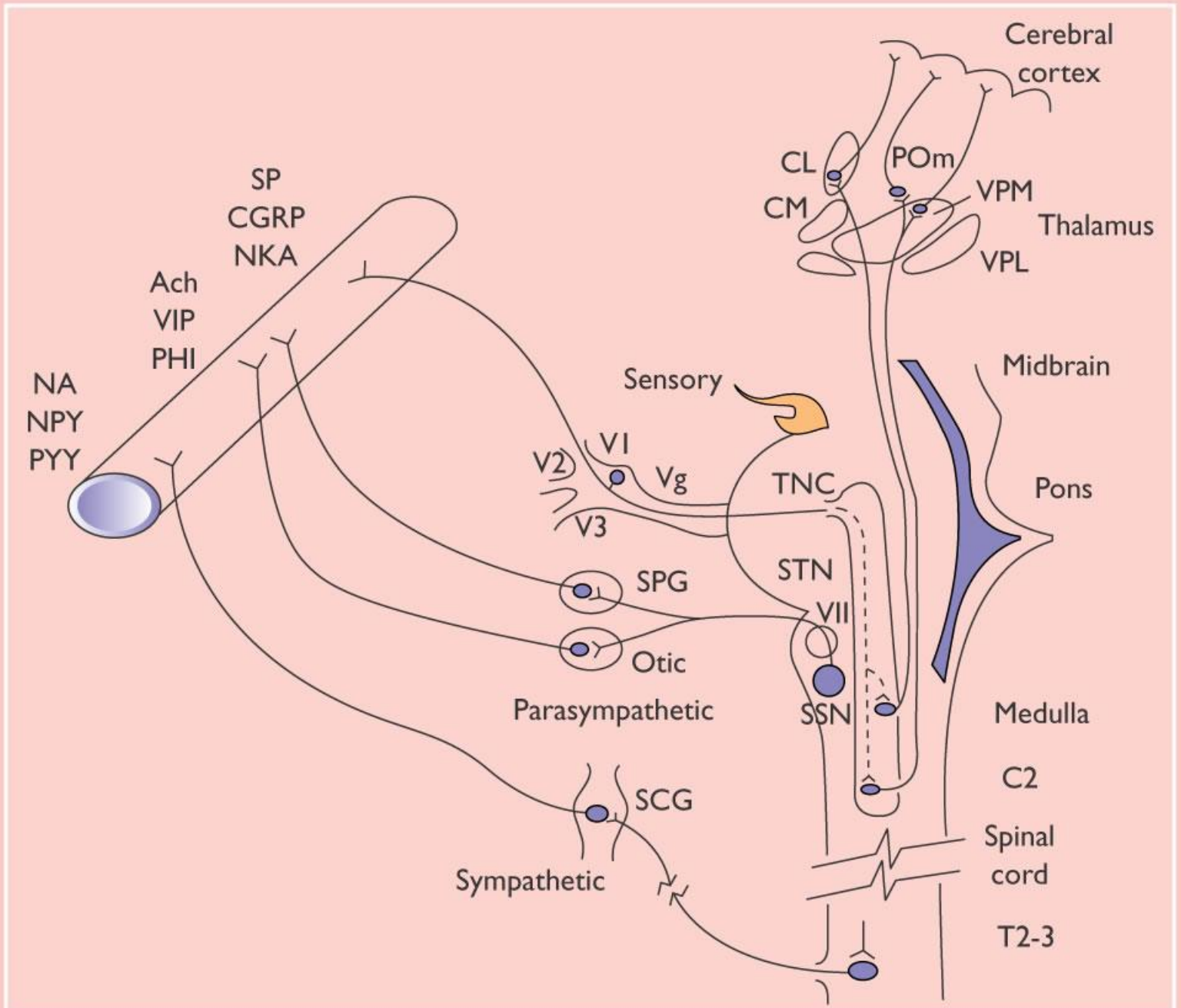
- Recurrent headache that bothers
- Nausea with headache
- Light bothers



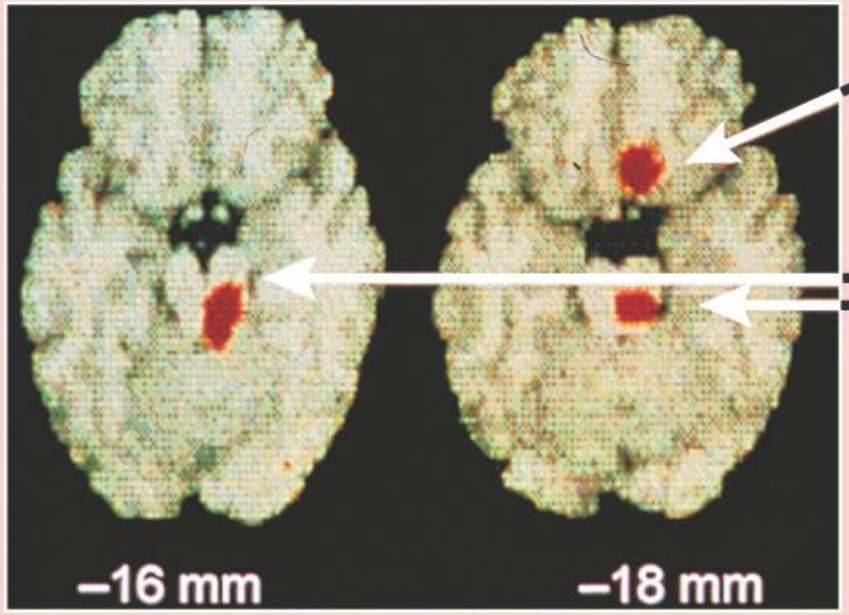
Migraine is a complex neuro-vascular disease and not just a headache

The migraine brain is hypersensitive

Does not respond well to change


Cerebral cortex
CL
POm
VPM
CM
Thalamus
VPL
SP
CGRP
NKA
Ach
VIP
PHI
NA
NPY
PYY
Sensory
Midbrain
V1
V2
Vg
TNC
Pons
V3
STN
SPG
VII
Otic
Parasympathetic
SSN
Medulla
C2
SCG
Spinal cord
Sympathetic
T2-3

Dysfunction of brain stem pain and vascular control centers



Pain perception*

- Anterior cingulate cortex

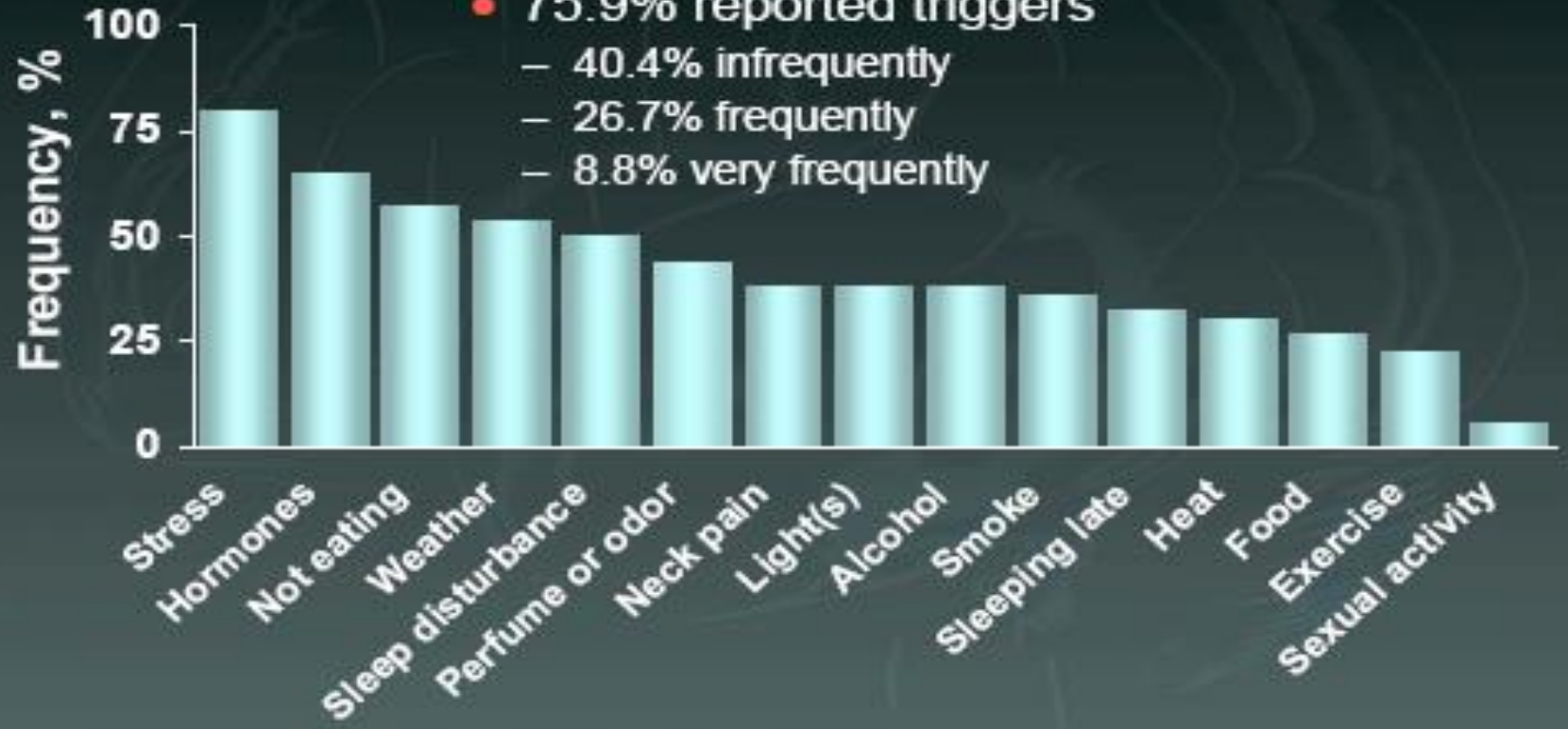
'Migraine generator'*

- Raphe nuclei
- Locus coeruleus
- Periaqueductal gray

*Areas of red indicate cerebral blood flow increases ($p < 0.001$)

Migraine Triggers and Precipitants

- N=1207 patients with migraine
- 75.9% reported triggers
  - 40.4% infrequently
  - 26.7% frequently
  - 8.8% very frequently



Adapted with permission from Kelman L. *Cephalalgia*. 2007; 27:394–402.

Migraine

- Prodrome 60%
- Aura 30 %
- Headache (30% bilateral)
- Postdrome


a
Motor or sensory,
positive or negative,
30-60 minutes

Migraine
Acute treatment

- Paracetamol, Aspirin, Domperidone.
- Triptan

Triptans

Sumatriptan 100mg
Sumatriptan 50mg
Rizatriptan 10mg
Zolmitriptan 2.5mg
Eletriptan 20mg/40mg
Almotriptan 12.5mg

Naratriptan 2.5mg
Frovatriptan

Triptans – some practical points

- Treat early
- Not in CVD
- SSRIs

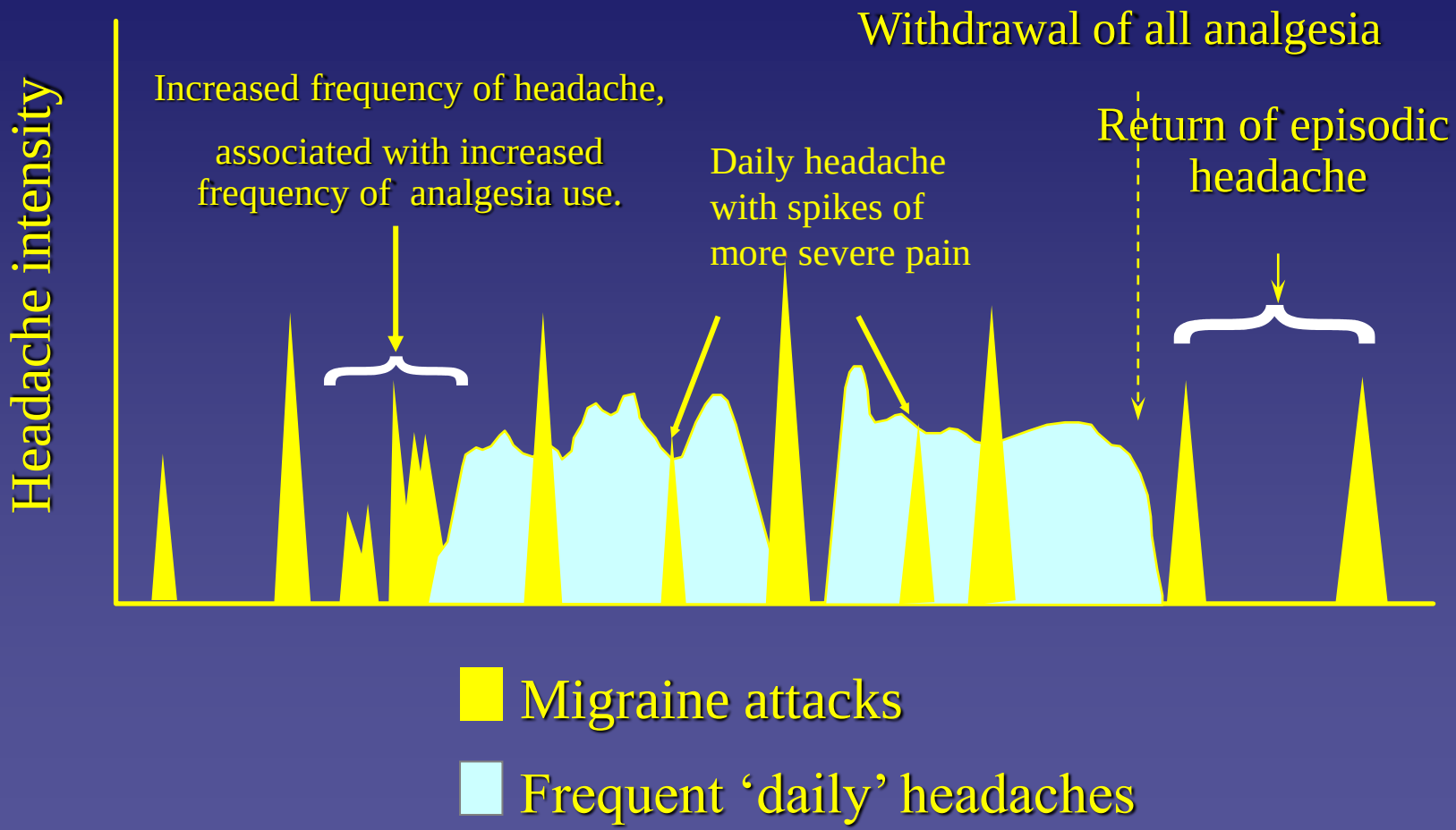
Migraine treatment Preventative

- When to instigate?
- What to use?
- How long for to assess an effect?
- What rate dose increase?
- How long on preventative medication?

Migraine prevention +- evidence and licence

- Beta blocker ++ (L)
- Pizotifen + - (L)
- Amitriptyline +
- Sodium valproate + +
- Topiramate +++ (L)
- Calcium antagonists + -
- Lisinopril, Montelukast + -
- Clonidine - - -

Medication overuse headache



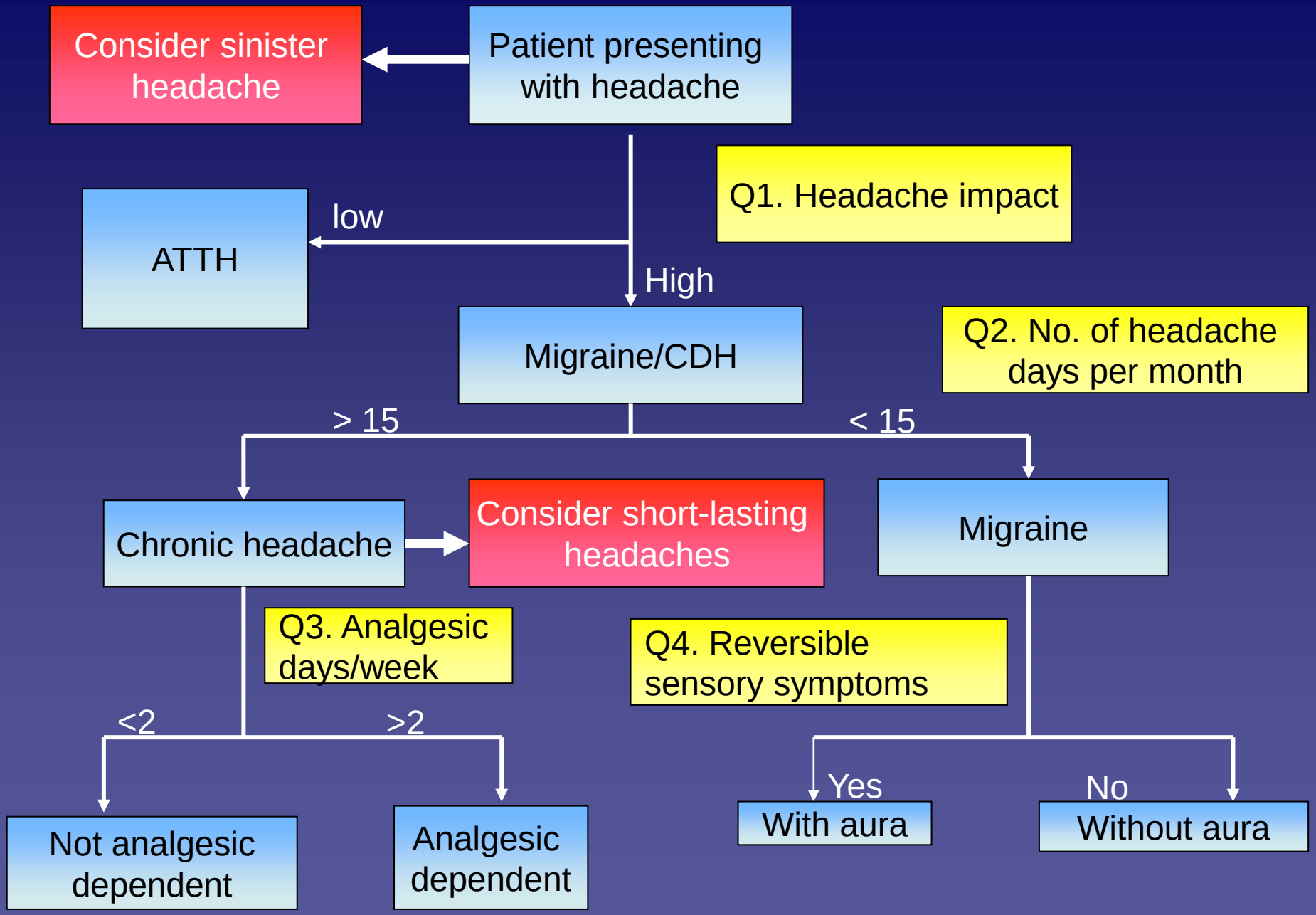
Some other things to think about

- Menstrual migraine
- Peri-menopausal migraine
- Migraine in pregnancy
- Migraine in children

Surviving the ten minute headache consultation

Key steps for the clinician

- Establishing a diagnosis
- Excluding serious pathology
- Witnessing the patients predicament
- Clear explanation and management plan
- Changing the locus of control


Consider sinister headache
Patient presenting with headache
Q1. Headache impact
ATTH
low
High
Migraine/CDH
Q2. No. of headache days per month
> 15
< 15
Chronic headache
Consider short-lasting headaches
Migraine
Q3. Analgesic days/week
Q4. Reversible sensory symptoms
<2
>2
Yes
No
Not analgesic dependent
Analgesic dependent
With aura
Without aura

Surviving the ten minute headache consultation

- Five key questions
- Two examinations
- One delaying tactic

Key question1 – how many pain killers are you taking?

Key question 2 - How many types of headache do you recognise?

Key question 3 – what is the impact of headache?

- Migraine - lie down
- Tension type - keep going
- Cluster – bang head against wall

Key questions 4 – honing in on migraine

- Is there a family history of headache?
- When did your headache start
- Do you get 2 out of:
- Troublesome headache in past three months?
- Nausea with headache?
- Light bothers you more with headache than without?

Key question 5 – what do you think may be causing your headache?

Two key examinations

- Blood pressure
- Fundoscopy

One key delaying tactic

- Go away and keep a diary
- Make a double appointment next time
- Measure impact (MIDAS or HIT)

Headache

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