Headache

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Objectives

- Relevance
- Classification of headache
- Clinical Case

- Specific headaches
  - Migraine
  - Tension
  - Cluster
  - Other headaches
  - ?SAH and investigation

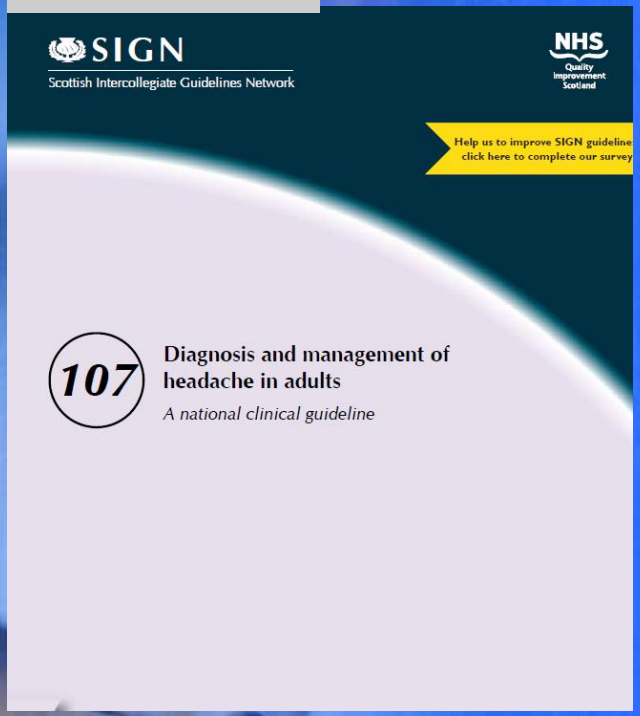
- Clinical Case

Headache

- Common
  - 90% lifetime prevalence in the UK
  - Diagnostic challenge!
    - International Classification of Headache Disorders lists over 200 types of headache ☹
    - Patients can have more than 1 type of headache ☹☹
  - History very important
    - Classification
    - Rule out Red flags

National Guidelines

2008 – no recent review



Updated Nov 2015. Due for full r/v Dec 2016

Classification of headache

- Primary = no underlying pathology
  - tension-type headache, migraine and cluster headache
    - Diagnosed as a result of excluding other causes and taking a history.
    - No further investigation required

- Secondary headaches = underlying pathology
  - investigations and/or referral may be considered

Secondary headaches for which further investigations and/or referral may be considered as:

- worsening headache with fever
- sudden-onset headache reaching maximum intensity within 5 minutes
- new-onset neurological defect/cognitive dysfunction/change in personality
- ↓GCS
- recent (typically within the past 3 months) head trauma
- headache triggered by cough, valsalva , sneeze, exercise
- headache waking them up/ change with posture
- symptoms suggestive of giant cell arteritis (e.g jaw claudication or visual disturbance)
- symptoms and signs of acute narrow-angle glaucoma
- a substantial change in characteristics of their headache.

Consider further investigations headache and:

- compromised immunity, caused, for example, by HIV or immunosuppressive drugs
- age under 20 years and a history of malignancy
- a history of malignancy known to metastasise to the brain
- vomiting without other obvious cause (for example a migraine attack).

Clinical Case

- Mrs S.P age 25
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- 17:40 ED Hx (ST2)
  - Non specific headache that morning. Paracetamol helped
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  - Sudden onset right sided pain, sharp & shooting. Pain caused her to collapse ?LOC. Then had weakness RHS (arm & leg) & slurred speech
  - Examination: slurred speech and weakness present (4/5) but improved O/A, recurring once and then improved

Differential?

- Migraine
- SAH
- Stroke
- A.N other headache??

Specific headaches

Migraine

- Affects 6 million in UK (10% M, 22% F)
- > 100,000 absent from work each day
- 50% misdiagnosed as another type of headache as atypical presentation common

- Classically = unilateral, pulsating, builds up over minutes/hours, moderate/severe in nature
- +/- aura
- Headache lasts 4-72 hours with very variable frequency (i.e once daily to once yearly)

- Most sensitive & specific symptom = nausea and photophobia

Headache (+/- aura) or Aura (+/- headache) 😳

- **Suspect aura** in people who present +/- headache and with neurological symptoms that:
  - are fully reversible **and**
  - develop gradually, either alone or in succession, over at least 5 minutes **and**
  - last for 5–60 minutes.
- **Diagnose migraine with aura**
  - visual symptoms
    - positive (e.g flickering lights, spots or lines)
    - negative (e.g.partial loss of vision)
  - sensory symptoms - positive (e.g. pins and needles) +/or negative (e.g.numbness)
  - speech disturbance.
- Consider further investigations for those +/- migraine headache and with any atypical aura symptoms e.g.
  - motor weakness **or**
  - double vision **or**
  - visual symptoms affecting only one eye **or**
  - poor balance **or**
  - decreased level of consciousness

Management of Migraine (+/- aura)

- Aim is to be pain free at 2 hours (NICE guideline)
  - **Analgesia** (Aspirin 900mg, Ibuprofen 400mg, Paracetamol 1g) + **antiemetic** (even in the absence of nausea and vomiting. Prokinetic action)
    - (Paracetamol, aspirin + caffeine may be best)
  - Triptan if analgesics not helping (preferred = Almotriptan, Eletriptan or Rizatriptan)
    - Age 12–17 years nasal > PO triptan
- Prolonged attack resistant to all ?– try Naproxen 500mg and Sumatriptan 50-100mg
- No opiates – risk of Medication overuse headache

Migraine prophylaxis

- Topiramate or Propranolol
  - NB Topiramate is associated with a risk of foetal malformations and can impair the effectiveness of hormonal contraceptives
- Consider Amitriptyline
- **Do not offer** Gabapentin for the prophylactic treatment of migraine (not effective)
- If both Topiramate and Propranolol are unsuitable or ineffective, consider a course of up to 10 sessions of acupuncture over 5–8 weeks

Tension headache

- Tension headache affects >40% of the population at any one time
- Lifetime prevalence = 42% M and 49% F
- Typically = bilateral, pressing/tightening and mild/moderate. No nausea and not worsened by physical activity
- Peri-cranial tenderness, light/sound sensitivity

Management Tension Headache

- Acute treatment:
  - aspirin, paracetamol or an NSAID
  - Do not offer opioids
- Prophylactic treatment:
  - Consider a course of up to 10 sessions of acupuncture over 5–8 weeks for the prophylactic treatment of chronic tension-type headache.

Trigeminal Autonomic Cephalalgia's

- Severe unilateral pain in trigeminal distribution
- Most common = Cluster headache
  - Estimated prevalence 1:1000
  - Severe, strictly unilateral pain
    - Orbital, supraorbital, temporal
  - Ipsilateral autonomic features (watering, conjunctival injection, rhinorrhoea/stuffiness, ptosis/eyelid oedema)
  - Starts & ceases abruptly, lasting 15 mins-3 hours
  - May have continuous background headache with migrainous features
  - Circadian rhythm ++ and 80-90% cluster

Cluster headache

- Acute
  - Oxygen +/or subcut/nasal triptan
  - 100% oxygen at least 12 L/min via non-rebreathe mask for 10-20 minutes
- Do not offer Paracetamol, NSAIDs, opioids, ergots or oral triptans

- Prophylaxis
  - Consider verapamil

Diagnosis table for tension-type headache, migraine and cluster headache

Headache feature	Tension-type headache		Migraine (with or without aura)		Cluster headache	
Pain location[1]	Bilateral		Unilateral or bilateral		Unilateral (around the eye, above the eye and along the side of the head/face)	
Pain quality	Pressing/tightening (non-pulsating)		Pulsing (throbbing or banging in young people aged 12–17 years)		Variable (can be sharp, boring, burning, throbbing or tightening)	
Pain intensity	Mild or moderate		Moderate or severe		Severe or very severe	
Effect on activities	Not aggravated by routine activities of daily living		Aggravated by, or causes avoidance of, routine activities of daily living		Restlessness or agitation	
Other symptoms	None		Unusual sensitivity to light and/or sound or nausea and/or vomiting **Aura**[2] Aura symptoms can occur with or without headache and: ▪ are fully reversible ▪ develop over at least 5 minutes ▪ last 5–60 minutes. Typical aura symptoms include visual symptoms such as flickering lights, spots or lines and/or partial loss of vision; sensory symptoms such as numbness and/or pins and needles; and/or speech disturbance.		On the same side as the headache: ▪ red and/or watery eye ▪ nasal congestion and/or runny nose ▪ swollen eyelid ▪ forehead and facial sweating ▪ constricted pupil and/or drooping eyelid	
Duration of headache	30 minutes–continuous		▪ 4–72 hours in adults ▪ 1–72 hours in young people aged 12–17 years		15–180 minutes	
Frequency of headache	Less than 15 days per month	15 days per month or more for more than 3 months	Less than 15 days per month	15 days per month or more for more than 3 months	1 every other day to 8 per day[3], with remission[4] more than 1 month	1 every other day to 8 per day[3], with a continuous remission[4] less than 1 month in a 12-month period
Diagnosis	Episodic tension-type headache	Chronic tension-type headache[5]	Episodic migraine (with or without aura)	Chronic migraine (with or without aura)[6]	Episodic cluster headache	Chronic cluster headache

[1] Headache pain can be felt in the head, face or neck.

[2] For further information on diagnosis of migraine with aura see **tension-type headache, migraine (with or without aura) and cluster headache** in this pathway.

[3] The frequency of recurrent headaches during a cluster headache bout.

[4] The pain-free period between cluster headache bouts.

Other headaches to consider

- **Menstrual-related migraine**
  - 2 days before and 3 days after the start of menstruation in at least 2 out of 3 consecutive menstrual cycles.
- **Cervicogenic headache** – up to 18%
  - Examine neck as part of headache assessment
- **Acute angle closure glaucoma**
  - Suspect in middle age, female, family Hx, long sighted
  - Symptoms vary
    - Acute: red eye, mid-dilated pupil,
    - Headache, eye pain, halo's, mimics migraine
- **Medication overuse**
- **Raised ICP causing headache**
- **GCA**

Medication overuse headache

- Suspect for headache that began/worsened while they were taking the following drugs for 3 months or more:
  - triptans, opioids, ergots or combination analgesic medications on 10 days per month or more or
  - paracetamol, aspirin or an NSAID, either alone or in any combination, on 15 days per month or more.
- Treated by withdrawing overused medication.
- Stop taking all overused acute headache medications for at least 1 month and to stop abruptly rather than gradually.
- Headache symptoms are likely to get worse in the short term before they improve

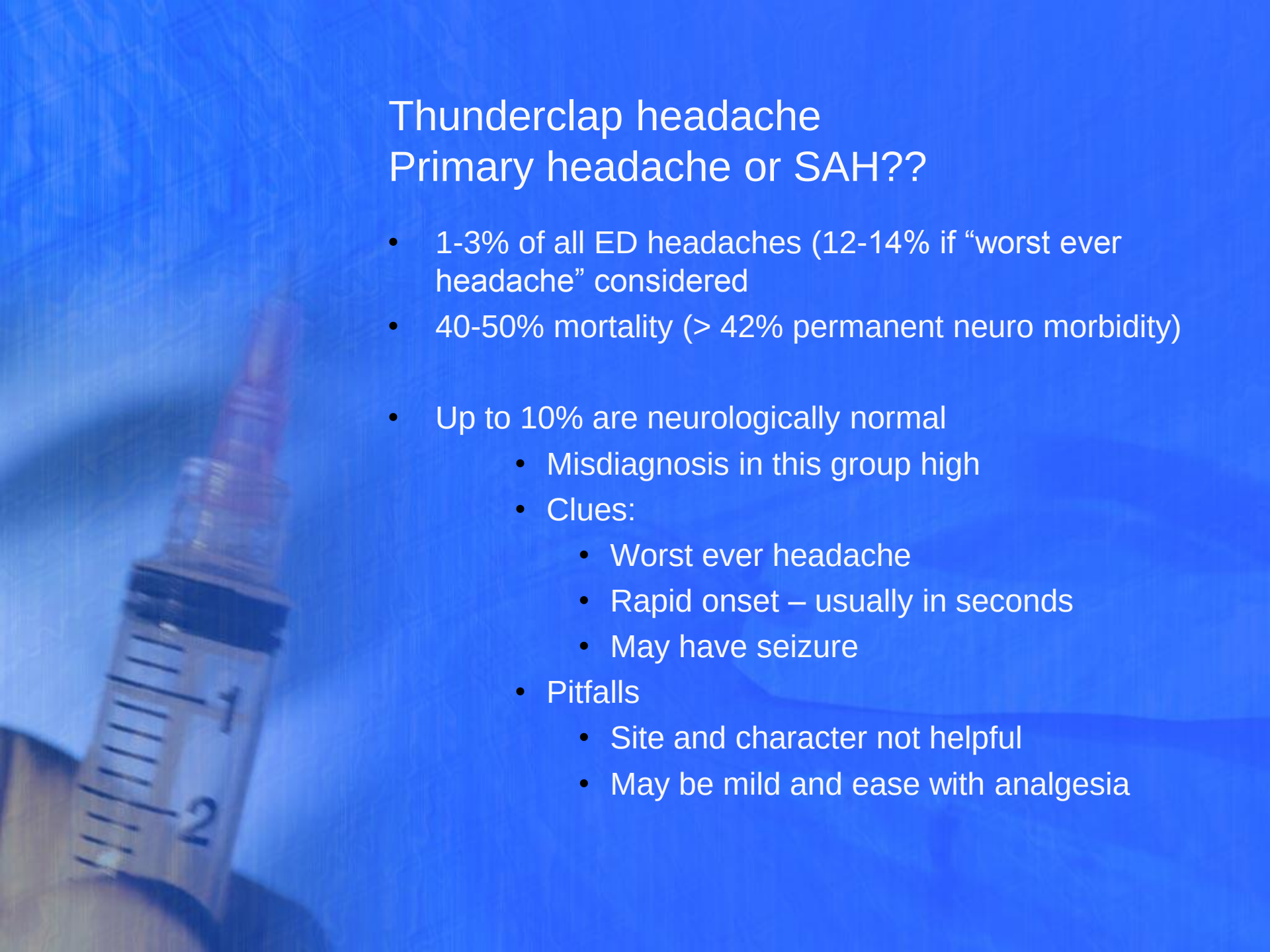
Raised ICP headache

- Raised ICP causing headache
  - Worse when lying down
  - May wake from sleep with pain
  - +/- precipitated by Valsalva/physical exertion
  - +/- postural visual disturbance

  - Intracranial tumours
    - Headache usually a late symptom
      - 23% have headache but only 0.2% as their sole symptom
      - Other presenting symptoms = seizure (21%)
  - Idiopathic Intracranial Hypertension
    - Raised ICP with normal imaging

GCA

- Consider in age > 50
- Headache = usually diffuse, persistent and may be severe
- May be systemically unwell (think PMR)
- Scalp tenderness?
  - low predictive value for positive T.A biopsy
- Jaw claudication?
  - most predictive clinical sign, followed by Visual symptoms
- Prominent/beaded T.A's?
  - most predictive physical sign
- Care!! – normal ESR in 7-20%
  - CRP 100% sensitive vs ESR 92%



Thunderclap headache
Primary headache or SAH??

- 1-3% of all ED headaches (12-14% if “worst ever headache” considered
- 40-50% mortality (> 42% permanent neuro morbidity)

- Up to 10% are neurologically normal
  - Misdiagnosis in this group high
  - Clues:
    - Worst ever headache
    - Rapid onset – usually in seconds
    - May have seizure
  - Pitfalls
    - Site and character not helpful
    - May be mild and ease with analgesia

Reasons for misdiagnosis of SAH

- Not thinking of it
- Failure to obtain and correctly interpret result of CT Head
- Failure to perform and interpret correctly the results of an LP

Reasons for misdiagnosis of SAH

- Not thinking of it
  - All first/worst sudden onset headaches
- Failure to obtain and correctly interpret result of CT Head
  - CT done < 6 hours of onset of headache has sensitivity 100% (5th generation scanners and scans reported by a Neuroradiologist)
  - Significant reduction in sensitivity over time
- Failure to perform and interpret correctly the results of an LP
  - If CT > 6 hours it is not sensitive enough to rule out SAH. Need LP > 12 hours post headache

Can we rule out SAH based on History alone?

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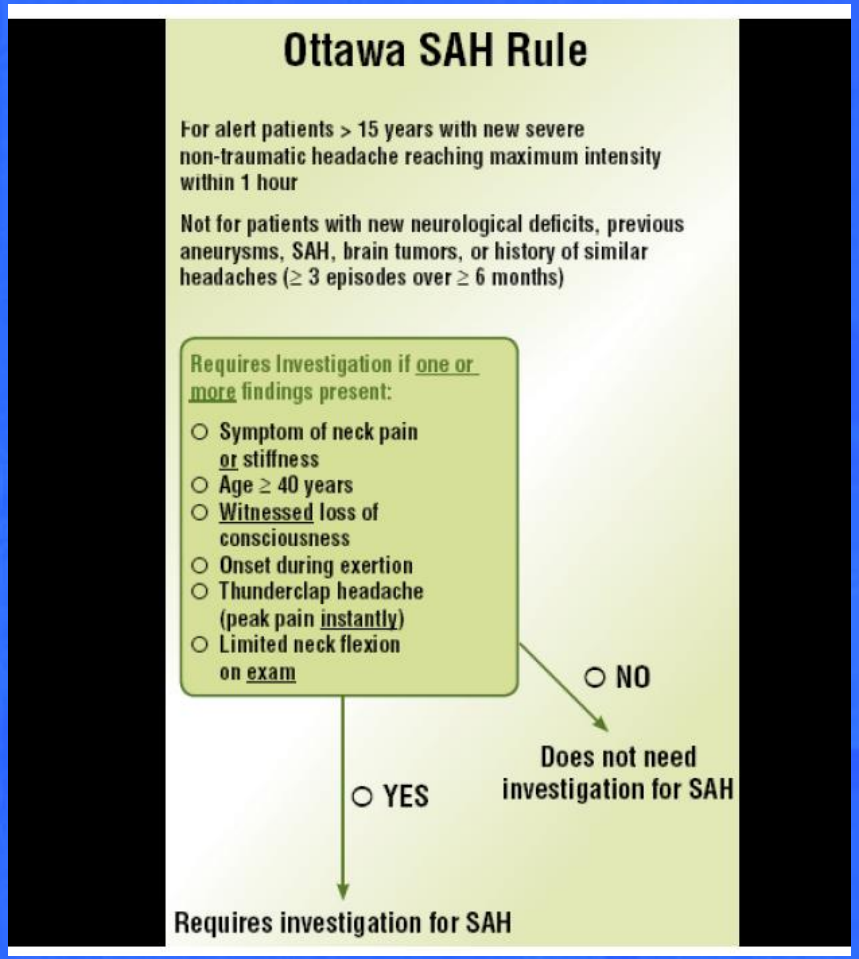
Validated rule 100% sensitive



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Progress in the ED

- ED diagnosis ?SAH
- CT Head = NAD

- Ref Medics for LP
  - Transferred to Medical ward (20:15hrs)
  - S/B F2 Medic (22:15hrs)
    - Frequent headaches, no formal diagnosis migraine
    - Same Hx documented
    - O/E: right sided weakness, numbness and homonymous hemianopia. Speech normal & no facial asymmetry
    - Differential: Hemiplegic Migraine or Stroke
    - Discussed with Med SpR: Thought Migraine

Progress

- 10:00 Consultant PTWR
  - Still has weakness & paraesthesia right arm/leg with drift. R homonymous hemianopia resolved. ?dissection.
  - Contact Stroke Team

- 11:20: S/B Stroke Team
  - Impression: Hemiplegic Migraine but for MRI to rule out ischaemia.
- 15:20 the following day, had MRI
  - Acute infarct ☹

Diagnostic nightmare!

- Pitfalls
  - Young (no risk factors for stroke
  - Hx of headaches
    - Had had a headache all day
    - Sounded like migraine “unilateral, pulsating, built up slowly, moderate/severe in nature”
  - Some symptoms resolving
    - Could be hemiplegic migraine (neuro signs can last a few days)
- Clues as to why not a migraine or SAH?
  - Sudden onset neurology (<5 mins and lasting longer than 1 hour) i.e. not aura
  - Gradual onset headache? (not SAH)
  - No nausea/photophobia
    - Migraine less likely
  - Headache….then…neurology
    - Hemiplegia usually precedes the headache in Hemiplegic Migraine

References

- BNF 70
- NICE 2012
- SIGN 2008
- Ottawa group