Emergency Care Institute
NEW SOUTH WALES

ACI NSW Agency for Clinical Innovation

ALL IN YOUR HEAD

Learning from our Incidents:

RED FLAGS in the Emergency Department

The case

26yo female final year medical student presented to ED with a 6 week history of intermittent headaches.

Associated symptoms of:

- *Dizziness*
- *Nausea*
- *Occasional breathing difficulties*
- *Anxiety*

PMH – Anxiety and Depression

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The case

She was assessed by the JMO who did not suspect any sinister health problem.

Her symptoms were attributed to anxiety and a stress-headache related to her final year exams.

She was reassured and discharged home, to follow up with the GP.

What are your differential diagnoses for headache?

The case

Second presentation:

She followed up with the GP 3 days later, who noted her headache had improved slightly with simple analgesia but persisted with some dizziness. She noted coryzal symptoms, mild tenderness over the frontal and maxillary sinuses, and otoscopy suggests left otitis media.

Her symptoms were attributed to an URTI complicated by sinusitis and otitis media.

She was commenced on oral amoxicillin

The case

Third presentation:

One week later she represents to ED at 1.30 am, with ongoing headache.

She is given a triage category 4 and transferred to fast track.

At 4am she was seen by a junior doctor and provided with analgesia. The doctor was called away to see a category 1 resus patient at 4.30 am.

The case

By 5.45 am the junior doctor hadn't returned to see the patient.

The patient reported to the nurse she had to leave, as she had an important exam that day and couldn't stay any longer.

The nurse notified the junior doctor of the patient's desire to leave. The doctor asked the patient to sign a 'discharge against medical advice' form.

The patient was advised to follow up with the GP for a referral to see a neurologist +/- MRI Brain

Would you have done anything different?

What red flags have you noticed so far?

The case

Fourth presentation:

Within 36 hours she was brought in by ambulance to ED, GCS 6 with fixed dilated pupils. Her flatmates found her unconscious over her desk.

Patient underwent emergency neurosurgery to relieve life-threatening raised intracranial pressure from tumour-induced obstructive hydrocephalus.

She never regained consciousness and died in ICU the day after surgery.

What are the lessons here?

Be careful to attribute symptoms to anxiety alone!

Particularly those with headache/neurological symptoms, or where appropriate investigation and referral have not occurred**:**

START AGAIN!!

….there may be serious intracranial pathology

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What are the lessons here?

Any patient who re-presents from any site of medical care (not just ED) for the same problem should not be dismissed

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What is the evidence?

- Incidence rates of all primary intracranial tumours ranges from 7.1-18.6 per 100 000 per year[1].

- A Scottish audit in 2004 found **headache and seizures are the most common first symptoms** in patients with single intracerebral tumours; 23.5% and 40% respectively[2]. Headache was present in 46.5% of hospital presentations.

- By the time the patient presents to hospital 86% will have other associated symptoms, split between **focal symptoms** (hemiparesis, dysphasia, hemi-sensory symptoms, or diplopia) and more **non-focal symptoms** (confusion/memory problems, personality change, visual symptoms, or unsteadiness) [2].

What is the evidence?

Headache characteristics related directly to neoplasm

– as per The International Classification of Headache Disorders (ICHD-II) [6]

Headache with at least 1 of the following characteristics:

1. progressive
2. localised
3. worse in the morning
4. aggravated by coughing or bending forward

What is the evidence?

- Sklar *et al*. [5] performed a retrospective study of deaths post discharge from ED, that revealed an incidence of 30.2 deaths per 100 000 ED discharges home within 7 days of discharge. 50% of these were **unexpected** but **related to the ED visit**.

- Common themes within this cohort of patients included [5]:
  - **Atypical presentations of an unusual problem**
  - Chronic disease with decompensation
  - Abnormal vital signs
  - Mental disability/**psychiatric problem**/substance abuse.

Access the ECI Clinical Tool:

Headache

http://www.ecinsw.com.au/headache

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References

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2. Grant R. Overview: Brain tumour diagnosis and management/ Royal College of Physicians guidelines. J Neurol Neurosurg Psychiatry 2004;75ii18-ii23 doi:10.1136/jnnp.2004.040360
3. LaCalle, E., Rabin, E. *Frequent Users of Emergency Departments: The Myths, the Data and the Policy Implications*. Annals of Emergency Medicine, 2010. 56 (10): pp. 43-48.
4. Jelinek, G.A., Jiwa, M., Gibson, N.P., Lynch, A. *Frequent attenders at emergency departments: a linked-data population study of adult patients*. Medical Journal of Australia, 2008. 189 (10): pp.552-556.
5. Sklar DP et al. Unanticipated death after discharge home from the emergency department. Ann Emerg Med. 2007 Jun;49(6):735-45. Epub 2007 Jan 8.
6. Headache Classification Committee of the International Headache Society. The International Classification of Headache Disorders (2nd ed) Cephalalgia. 2004;24(suppl 1):1–160

Think carefully about differential diagnoses in patients with headache /neurological symptoms. Do not be too quick to attribute this to anxiety!

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