Primary/Secondary Headaches Cases

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Case 1
Anything Wrong?
Anything Wrong?
Case 2
72 year old man..

- 5 month of throbbing, left occipital headache..
- Pain radiates into neck region and is worse with exertion such as walking for 12 minutes..
- He needs to lay down and rest and headache improves in 1 to 2 hours....
- Examination normal except tender to palpation over left occipital nerve...BP is 148/78
More History

• Is retired and has been under some stress..

• Is on statin for elevated lipids and BP medication for hypertension...

• Has arthritis in neck and think this is causing his headache....he is worried about a tumor..
Investigations

- Neck x-rays show DDD at C5 to C7 levels...
- EMG for left arm pain was negative...
- CT scan showed calcification of one of the vertebral arteries..
- A decision is made to image him further with CTA to show vessels....
Here is his CT Scan...

Here is the CTA
Questions

• So what is wrong with him?

• What do you think about when you get a history of exertional headaches?

• What do you do with him now?
Some Blood Work..

- CBC, ESR, CRP
- ESR elevated at 36, CRP is high normal
- Put on ASA 81 mgs a day..
- Hold new NSAID used for arthritis....
Other Options

- Has more episodes of pain….really worried, calls office and arrange to review him..

- Maybe an occipital nerve block, so that was arranged to be done the next week...

- Start him on nortriptyline and see how he does but before that....
Just Checking!
The Diagnosis was Suggested to Patient and his Wife...
Cardiac Cath..
Cardiac cephalgia:
A treatable form of exertional headache

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Article abstract—We report two patients with exertional headaches beginning with vigorous exercise and relieved by rest. Neurologic evaluation and neuroimaging were normal in both. During exercise stress testing, the onset of the patients’ typical headaches correlated with ECG changes indicative of myocardial ischemia. In both patients coronary angiography revealed three-vessel disease, and myocardial revascularization procedures were followed by complete resolution of headaches. Based on these patients, and a review of prior similar reports, we conclude that myocardial ischemia is a rare and treatable cause of exertional headache. Accurate diagnosis is critical to controlling headaches and preventing myocardial infarction.

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BRIEF REPORT

Cardiac cephalalgia: case reports and review

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Diagnosis of myocardial infarction or acute coronary syndrome is difficult, especially in atypical presentation at an emergency department, and sometimes results in serious legal issues. Symptoms of atypical presentation include shortness of breath, dyspnœa on exertion, toothache, abdominal pain, back pain and throat pain. As of now, reports of a headache, especially exertional headache, as the only presentation of acute cardiac ischaemia are rare and only have case reports. We present two patients with a cardiac source of headache and analyse 32 patients with similar situations from MEDLINE search from 1966 to the present. Cardiac cephalalgia is benign in general, but potential risks for death should be considered. If the patient has increased risk of atherosclerosis with exertional headache, anginal headache should be highly suspected and further work-up should be undertaken. □Acute ST segment elevation myocardial infarction, anginal headache, apical hypertrophic cardiomyopathy, cardiac cephalalgia, coronary artery disease, myocardial infarction, myocardial ischaemia
Clinical Pearls

- Headache is primary pain location in 3.5% of patients with angina/myocardial infarction.

- Exertional headache may be a manifestation of cardiac disease, even with negative exercise ECG testing.

- Cardiac cephalalgia should be considered in patients who present with new headache, especially if headache is exertional, patient over 50 years, or cardiac risk factors.

Courtesy of CMEP Course, AHS 2015
Case 3
Case 4

- 62 woman with a history of migraine with aura...
- Develops significant aura of a different nature which consists of highly peculiar symptoms!
- Neuroimaging demonstrates remarkable findings...
Migraine Stroke!
To Dream to Sleep

She perceives objects as bigger and deformed, with large ears and noses.

She perceives that she is dead and watching her own funeral...

She has remarkable drawings of her symptoms...
Case 4 Questions

• What has happened to her?
• Did she have a stroke?
• What is the mechanism(s) of these MR findings?
• What to do about them….?
Cortical abnormalities on MRI: what a neurologist should know

Dysmetropsia and Cotard’s syndrome due to migrainous infarction – or not?

Natalie E Parks¹, Heather B Rigby¹, Gordon J Gubitz¹, Jai Shankar² and R Allan Purdy¹

Abstract
Introduction: Migrainous infarction accounts for 12.8% of ischemic strokes of unusual etiology.
Case report: A 59-year-old woman with longstanding migraine with aura experienced what appeared to be migrainous infarction characterized by dysmetropsia and transient Cotard’s syndrome. Imaging demonstrated right temporo-parietal-occipital with apparent cortical laminar necrosis.
Conclusion: The spectrum of the pathophysiology of migrainous infarction has not been established; however, cortical spreading depression may explain the appearance of imaging findings that do not obey a vascular territory.

Keywords
Cortical spreading depression, Cotard’s syndrome, dysmetropsia, migrainous infarction, cortical laminar necrosis, persistent aura

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Spreading Depolarization May Link Migraine and Stroke

Katharina Eikermann-Haerter, MD

Migraine increases the risk of stroke, particularly in young and otherwise healthy adults. Being the most frequent neurological condition, migraine prevalence is on a par with that of other common stroke risk factors, such as diabetes or hypertension. Several patterns of association have emerged: (1) migraine and stroke share a common association (e.g., vasculopathies, patent foramen ovale, or pulmonary A-V malformations); (2) injury to the arterial wall such as acute arterial dissections can present as migraine aura attacks or stroke; (3) strokes rarely develop during a migraine attack, as described for “migrainous stroke.” Increasing experimental evidence suggests that cerebral hyperexcitability and enhanced susceptibility to spreading depolarization, the electrophysiologic event underlying migraine, may serve as a mechanism underlying the migraine-stroke association. Mice carrying human vascular or neuronal migraine mutations exhibit an enhanced susceptibility to spreading depolarization while being particularly vulnerable to cerebral ischemia. The severe stroke phenotype in migraine mutant mice can be prevented by suppressing spreading depolarization. If confirmed in the clinical setting, inhibiting spreading depolarization might protect migraineurs at stroke risk as well as decrease attacks of migraine.

Keywords: stroke, spreading depolarization, migraine, aura, familial hemiplegic migraine, cerebral autosomal arteriopathy with subcortical infarcts and leukoencephalopathy

(Headache 2014;54:1146-1157)
18 months later!

"Dysmetropsia and Cotard's syndrome due to migrainous infarction - or not?"
Case 4
Is That All You Have?

- 32 y/o with episodic of left hemi-field visual loss

- 1 - 2 a week, but little headache...

- GP did CT, which was normal except for an incidental Chiari I malformation.

- Exam normal. MR ordered/ follow-up planned.

- No exertional /cough headache, ‘some’ occipital.
Some Imaging
Don’t Cross That Line!

http://radiopaedia.org/
Now what do I do?

- His visual symptoms have settled down.
- Worried about his MR Image and what do?
- What if I told you one more thing?
- Would that change your mind?
Final Thoughts

- Pattern recognition is a good think, if you are right in your view...
- Be aware of things that DON’T FIT
- Only one diagnosis, all differentials are wrong!
- And so one more thing.....
“He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all.”

Sir William Osler
Thanks For Your Attention