Bouncebacks

The Case of a 53-Year-Old Female with Headache and Eye Pain

In Bouncebacks, *which appears semimonthly in* JUCM, *we provide the documentation of an actual patient encounter, discuss patient safety and risk management principles, and then reveal the patient's "bounceback" diagnosis.*

Cases are adapted from the book Bouncebacks! Emergency Department Cases: ED Returns *(2006, Anadem Publishing,* www.anadem.com*; also available at* www.amazon.com *and* www.acep.org*) by Michael B. Weinstock and Ryan Longstreth. The book includes 30 case presentations with risk management commentary by Gregory L. Henry, past president of The American College of Emergency Physicians, and discussions by other nationally recognized experts.*

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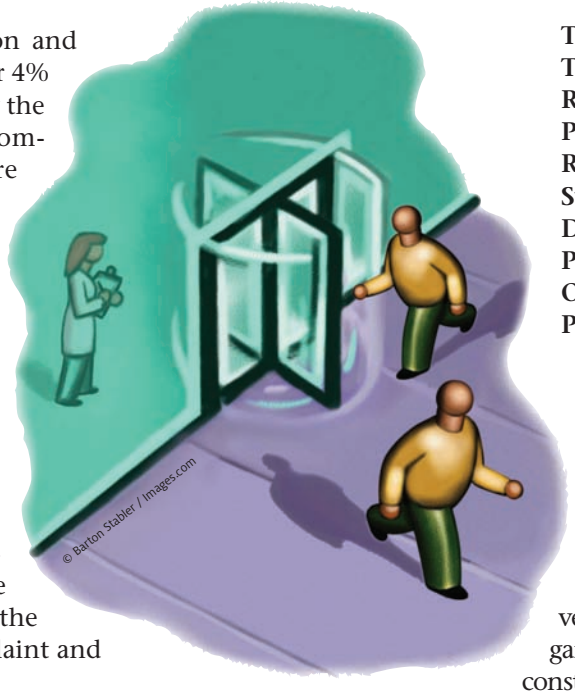
Headaches are both common and challenging, accounting for 4% of ED visits and comprising the eighth most-common complaint seen by primary care physicians. This frequency can create a false sense of security, as there are numerous life-threatening etiologies hiding in the "haystack."

In this month's case, our patient was a bounceback on her first visit, having previously seen her PCP *and* an urgent care doctor.

In addition to a brief discussion of headaches and their differential diagnosis, this article will address the approach to the patient with a high-risk complaint and diagnostic uncertainty.



Time	19:53	22:27
Temp(F)	98.2	
Rt.	T	
Pulse	74	58
Resp	16	18
Syst	155	148
Diast	79	72
Pos	S	L
O2%		100
Pain scale	10	3

Initial Visit

(Note: The following, as well as subsequent visit summaries, is the actual documentation of the providers, including punctuation and spelling errors.)

CHIEF COMPLAINT (at 19:50): Headache

HPI: (at 20:27) Patient has history of severe headaches in the past but none for 10 years until 4 days ago. This Headache is no worse than previous headaches and was gradual onset. The patient complains of a severe right frontal headache that began 4 days ago. The symptoms are constant, the discomfort is currently a 10/10. The pain began while at rest. It is described as dull, aching and throbbing. She does have photophobia. She was at Urgent Care last night and given an injection, but doesn't know the name of it. She was at her family doctor's office today and given imitrex. Neither of these therapies significantly improved her pain. She also used vicodin which was minimally effective. She denies fever, rash, pares-

thesias, weakness, slurred speech, diplopia, blurred vision, aura, cough, SOB, rhinorrhea, neck stiffness, diaphoresis, abdominal pain, or nausea/vomiting.

PMHx: Thyroid problems, headaches, Ovarian Cyst removal
Meds: Synthroid, Vicodin, Maxalt, and Fioricet
NKDA
SHx: married, smoker, no etoh, no drugs

Exam:
General: Well appearing; well nourished; A&Ox3, in no apparent distress
Eyes: PERRL, EOMs grossly intact, Fundascopic no hemm/exud./papilldema
Ears: TM's normal
Neck: Supple, non-tender, no adenopathy
Card: RRR no m/r/g
Resp: Normal w/o w/r/r
Skin: Normal for age and race, warm, dry; no apparent lesions
Neuro: A&O x 3, Cranial Nerves 2-12 intact, normal gait, motor and sensation intact

Orders: (at 20:34):
Dilaudid 1mg IVP, Phenergan 12.5mg IVP, Toradol 30mg IVP, .9NS-500cc bolus then to 125cc/Hr.

CT Scan brain without contrast: Tiny punctuate area of high attenuation seen in the right basal ganglia, possibly a small calcification. I doubt this is a hemorrhage. Ventricles and cisternal spaces are normal. No evidence of hemorrhage or mass. No extracerebral or subdural collections.

Progress Notes: Patient is feeling better and ready to go home.

Diagnosis: Cephalgia

Disposition: (22:32) The patient was discharged to home. F/U PCP in 5 days if not better.

Discussion of Visit 1 and Risk Management Issues

Our patient has a high-risk complaint and is already a "double bounceback" patient, heightening our concern for a serious cause of her symptoms.

Whereas a CT scan is helpful in the evaluation of mass, there are many life-threatening disorders which can be present despite a normal CT, including:

- subarachnoid hemorrhage (SAH)
- meningitis
- pseudotumor cerebri (benign intracranial hypertension)
- temporal arteritis
- ocular problems
- hypertensive encephalopathy.

Sometimes, a specific diagnosis will not be able to be established despite our increased awareness, prompting a progress note and a discussion with the patient of diagnostic uncertainty and the importance of a follow-up plan that is action- and time-specific.

Our patient was asked to follow up in five days—too long a time period; any serious cause of headache would be expected to manifest itself before that time. A more appropriate plan for return would be 24 to 48 hours, including urgent care return if the PCP was unavailable.

Second Visit: One Day Later

- Returned the next day after difficulty sleeping secondary to her pain
- Now has right eyelid swelling. No change in vision, fever or rash, no focal weakness
- Has associated nausea and vomiting
- Vitals: Temp: 99.9, Pulse 64, RR: 16, BP 128/75 Pain 10/10
- PE: Normal except for ocular exam: Visual acuity: (Uncorrected) OD 20/70, OS 20/50. Tonometry OD 35 (normal 8-22), OS 29
- Labs: WBC: 6.5 (4.6-10.2), Hgb: 12.8 (12-16), Plts 247 (142-424), WSR 9 mm/hr (0-30), ANA negative
- Progress Notes Cont: She was administered Benadryl 25mg, Regalan 10mg, and Dilaudid O.5mg IVP. The primary care physician was contacted who requested an LP be done, the results of which were negative. The patient was being prepared for discharge when her pain returned and the decision to admit was made. She was given Dilaudid 0.5mg and nafcillin 1.5 grams on admission for presumptive diagnosis of orbital cellulitis
- Hospital course: Over the next 24-48 hours she developed vesicles on the right side of her face and nose and a diagnosis of herpes zoster ophthalmicus was established. She was placed on IV acyclovir and was in the hospital a total of 5 days. CSF culture remained negative for 48 hours.
- **Final Diagnosis**: Herpes Zoster Opthalmicus

Historical Approach to Evaluation of Headaches

In the urgent care center, we need to approach our patient

Table 1. Features of Secondary Headaches

Characteristic	Possible Etiologies
Acute onset	Onset less than one minute suggests subarachnoid hemorrhage. Other causes of rapid-onset HAs include carotid and vertebral artery dissections, venous sinus thrombosis, pituitary apoplexy, hypertensive emergencies, and acute narrow-angle glaucoma
First or worst HA	Intracranial hemorrhage, CNS infection
Age over 50	Mass lesions, temporal arteritis
Exertional HA	Hemorrhage, carotid artery dissection
Visual disturbances	Acute narrow angle glaucoma, mass lesion, optic neuritis, orbital cellulitis, iritis
Concomitant infection/fever	Meningitis, intracranial abscess, venous sinus thrombosis
Altered mental status	Subarachnoid hemorrhage, infection, mass lesion, metabolic disturbance

from the perspective of the most dangerous diagnoses first. Our approach needs to differentiate the secondary causes of headache, some of which are life- or vision-threatening (the "big two" being subarachnoid hemorrhage and meningitis), from benign intrinsic causes such as migraine, or cluster or tension headaches **(Table 1)**.

Subarachnoid Hemorrhage (SAH)

Typical is a sudden onset (less than one minute) severe headache most commonly from nontraumatic subarachnoid hemorrhage of an aneurysm in the circle of Willis.

CT is best at picking up blood on day 1 (92% to 98%) but at day 5 the sensitivity drops to a little over 50%. When SAH is considered and the CT is negative, an LP *always* needs to be done. The risk is that the "sentinal bleed" of SAH is the harbinger of a complete aneurismal rupture causing death or severe disability.

Meningitis

Fever plus headache is a dangerous and high-risk combination. Meningitis should always be considered and a progress note recorded, documenting why this diagnosis seems unlikely.

Concomitant symptoms may include stiff neck, petechial rash, confusion, or neurologic changes. The only way to exclude meningitis is a lumbar puncture. A CBC is often normal and should not be reassuring.

Temporal Arteritis

The onset of symptoms is often gradual but may be abrupt. A new headache accompanies temporal arteritis in up to 75% of cases and tends to be over the temporal area but may be frontal or occipital. Tender temporal or occipital arteries are present in about a third of patients. Jaw symptoms, usually trismus or claudication, are prevalent in about half of patients.

Systemic symptoms include fever, fatigue, and sometimes weight loss. Polymyalgia rheumatica, characterized by aching morning stiffness in shoulders and hip muscles, occurs in approximately 40% to 50% of patients.

Acute Angle Closure Glaucoma

Acute open-angle glaucoma presents as a painful red eye and must be treated within 24 hours to prevent permanent vision loss. The pupil is dilated or semi-dilated and the cornea cloudy. By contrast, chronic open-angle glaucoma rarely causes pain or headache.

Iritis, Uveitis, or Retrobulbar Neuritis

Iritis and other inflammatory eye conditions often present as a headache with photophobia, pain, and a red eye. Physical exam reveals small pupil with cells in the anterior chamber and a limbal flush. A history of recent trauma, eye surgery, infection or systemic diseases should be sought.

Sinusitis and Orbital Cellulitis

Orbital cellulitis can complicate acute bacterial sinusitis in up to 3% of cases, whereas orbital cellulitis has concomitant acute sinusitis in up to 94% of cases. Orbital cellulitis can present with swelling and erythema around the eye, pain with eye movement, conjunctival swelling, proptosis, and possibly vision changes.

Zoster Ophthalmicus

Herpes zoster usually presents with rash and a neuritis.

Often, the pain is described as a deep burning, throbbing, or stabbing and may precede the rash. Headache, malaise, and fever may be present.

Herpes zoster ophthalmic (HZO) is linked to reactivation of the virus in the trigeminal ganglion, specifically the frontal branch of the first division of the nerve. Unilateral pain along the affected eye and forehead and on top of the head is usually described. The infection may be limited to the lids, scalp, or face; however, it is estimated that up to 72% of patients experience direct ocular involvement.

Clinicians should be aware that lesions on the tip to the nose, Hutchinson's sign, is associated with a high risk of HZO and direct corneal involvement. Treatment consists of oral antivirals and prompt referral to ophthalmology.

Migraine Headache

The pain of a typical migraine usually begins gradually and increases to a maximal level over two to four hours. It is often described as dull, deep, and steady and can become pulsatile and throbbing when severe. Systemic symptoms such as fatigue, photophobia, phonophobia, and sometimes difficulty concentrating often accompany the headache.

In 60% to 70% of patients, the headache is lateralized and classically gets worse with exertion. Patients may describe an aura which by definition is a progressive, neurologic deficit or disturbance, commonly involving the vision, sensory, motor and speech, with complete recovery usually within an hour. Migraines with and without auras almost always resolve within 72 hours.

Cluster Headache

Relatively uncommon, cluster headaches are characterized by repetition over weeks to months at a time, fol-

lowed by headache-free periods. The pain of cluster headache is strictly unilateral, begins quickly without warning, and reaches a maximal intensity within a few minutes. It is described as continuous, deep, and excruciating and occasionally pulsatile and throbbing. Most patients are restless and pacing (in stark contrast to migraine sufferers who tend to lie quietly in a dark room).

Other physical signs associated with cluster headaches are ipsilateral lacrimation, redness of the eye, stuffy nose, rhinorrhea, sweating, pallor and Horner's syndrome. Nausea and vomiting may occur in these patients. Photophobia does occur on the same side as the headache.

Tension Type Headache

Tension type headache is the most common headache syndrome. These are chronic, daily headaches. They are often described as pressure-like tightness around the head and have a tendency to wax and wane. As a rule they are devoid of typical migrainous features of photophobia, phonophobia, nausea, vomiting, and aura.

Summary

The diagnosis of zoster ophthalmicus was not initially apparent, which is the rule and not the exception. The lesson from this case is to recognize our patient as high risk and a double bounceback, and to maintain a high index of suspicion for a secondary cause of her headache.

We need to ensure that our approach is thorough and systematic, and that our documentation is complete. The chart and assessment should convey our thought processes, documented in a progress note when there remains diagnostic uncertainty. This is imperative in all our cases, but especially in the bounceback patient who is not responding to previous medical intervention—even more so when involving a high-risk chief complaint such as headache.

For Resources used in preparing this report, visit www.jucm.com. ■