

A Persistent Migraine Aura

Case History and Follow-up Submitted by Randolph W. Evans, MD

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A prolonged aura in a woman on an oral contraceptive raises several questions.

CLINICAL HISTORY

This is a 33-year-old woman with a history of migraine without aura starting about the age of 13. In her early 20s, she started having episodes of numbness of the left side of her face, left hand, and sometimes the left leg lasting from 30 minutes to all day. Anywhere from about a half hour to a couple of hours after the onset of the numbness, she would develop an intense nonthrobbing pain behind the eyes lasting about 1 day and associated with trouble focusing, light and noise sensitivity, and sometimes nausea. These episodes occurred about once every 6 months.

Six days prior to consultation, she developed numbness of her left cheek, the left side of her mouth, and tingling of her left hand without headache lasting many hours, similar to the paresthesias with the headaches previously. Two days later, the numbness recurred and was intermittent all day. The next day, she had a slight headache behind the eyes without associated numbness or other symptoms lasting a few hours. Two days later, the day of consultation, she again developed numbness of the left face and left hand similar to the prior episodes of numbness and a slight headache behind the eyes lasting a few hours.

There was no history of hypertension, diabetes, or heart disease. Past medical history was unremarkable. She was taking a low-dose estrogen oral contraceptive. Blood pressure and neurological examination were normal.

Questions.—What is the diagnosis? What testing and treatment would you recommend? Should the patient continue taking low-dose estrogen oral contraception?

EXPERT COMMENTARY

Uncomplicated migraine is usually a clear-cut diagnosis, when the appropriate questions are posed. Complicated migraine or migraine with prolonged aura can be a more difficult diagnosis in that it must be clearly differentiated from pathology of the central nervous system or the cerebrovascular system. Migraine may be associated with stroke, an etiologic factor for stroke, or a comorbid condition of a disorder predisposing to stroke.

Numerous studies have confirmed that migraine is a risk factor for stroke in young women (under 45 years), with odds ratios (ORs) as follows: 3.5 for migraine in general, 3.0 for migraine without aura, and 6.0 for migraine with aura.¹ However, controversy does exist as many of these studies are limited and/or methodologically problematic. Overall, the absolute risk of stroke in young women with migraine is low.² Given this low risk, aspirin is not universally recommended for prophylaxis. For acute treatment of migraine with aura, Bousser¹ recommends using NSAIDs or analgesics before trying vasoconstrictive agents.

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In the general population, use of an oral contraceptive (OC) increases the risk of stroke by up to six-fold.³ The risk is higher in women over aged 35 who are taking high-dose estrogen OC, particularly in those women with other risk factors such as hypertension and smoking. In fact, when combined with OC, smoking dramatically increases the risk of stroke (OR, 4.7). Data on use of low-dose estrogen OC indicate that, in the worst case, the risk of stroke is marginally increased, provided there are no other risk factors.¹

For migraineurs who smoke, the OR is 10 and for those who take OC, the OR is nearly 14.⁴ Again, given the low absolute risk, many physicians believe OC use in young women with migraine without aura or with brief aura is safe, provided there are no other risk factors (hypertension, diabetes, or smoking). However, if a woman experiences new-onset aura or a change/prolongation of aura while using OC (as in this patient), the OC should likely be discontinued.

True migrainous infarcts are rare and should only be considered in the case of the patient with migraine with aura in whom the aura is persistent and in whom all other causes have been ruled out.

Migraine has been reported with increased frequency in conditions which are associated with ischemic stroke, such as antiphospholipid antibody syndrome, systemic lupus, cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy, and mitochondrial encephalopathies, to name a few. In a young patient, it is essential to rule out the "atypical" causes of hypercoagulability/infarction, before concluding that the patient's symptoms are secondary to migraine.⁵ It is important to inquire about a history of frequent miscarriages and recurrent arterial or venous thromboses. Investigations should include an MRI of the brain, MRA of the brain and neck, a coagulation workup which may include a complete blood count, erythrocyte sedimentation rate, activated partial thromboplastin time, prothrombin time, lupus anticoagulant, anticardiolipin antibody, antinuclear antibodies, proteins C and S, antithrombin III, and homocysteine.

In theory, persistent migrainous aura may reflect ongoing cortical spreading depression. Case reports in the literature have commented on the utility of

oral divalproex sodium⁶ and intravenous furosemide⁷ in the treatment of prolonged migrainous aura.

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FOLLOW-UP

The patient was advised to discontinue oral contraceptives and was placed on acetylsalicylic acid, 81 mg, daily. An MRI scan of the brain and MRA of the brain and neck were normal. A complete blood count and chemistry profile were normal. The erythrocyte sedimentation rate was 1 mm/h. An antinuclear antibody titer, rheumatoid factor, cardiolipin antibodies, and lupus anticoagulant were all negative.

On follow-up 5 days later, she reported fairly constant numbness of the left ear area, cheek, and left hand including all the fingers but no headache during the previous 5 days. Neurological examination was normal. Because of the persistent numbness, she was given a single dose of furosemide, 20 mg, for a suspected prolonged migrainous aura and placed on verapamil SR, 120 mg, daily. The numbness resolved after a few more days.

When seen again 1 month later, she reported no further numbness or headaches. However, she chose to discontinue verapamil because of marked fatigue but was continuing the aspirin. Six months later, she

reported only one slight headache and no further episodes of numbness. She was taking the daily aspirin and had continued the oral contraceptive despite my advice to the contrary.

INVITATION TO SUBMIT CLINICAL DILEMMAS

The "Expert Opinion" section of *Headache* is edited by Randolph W. Evans, MD who invites readers to submit clinical problems, case reports, or other headache-related questions for commentary by one or more experts. Comments on the expert's opinion as letters to the editor are also welcome.

Material submitted for expert opinion, not to exceed 750 words, should include the original and two double-spaced copies along with the computer disk and can be sent to the journal editor, J. Keith Campbell, MD, at the Emeritus Office, Plummer 10, Mayo Clinic, 200 First Street, SW, Rochester, MN 55905 or may be submitted by e-mail to gstumvoll@uswest.net.

Errata

RE: Mazzotta G, Carboni F, Guidetti V, et al. Outcome of juvenile headache in outpatients attending 23 Italian headache clinics. *Headache*. 1999;39:737-746.

Several changes and corrections requested by the authors of the above article were not made prior to publication. The authors submitted the article on behalf of the Società Italiana Neuropsichiatria Infanzia e Adolescenza (SINPIA).

On page 741, the percentage of primary headaches was 1.3% (not 1.1% as printed) and secondary headaches were present in 2.3% (not 2.2% as printed).

In Table 6 on page 743, the number of patients listed under "5.2 Chronic posttraumatic headache" was 1 (not 2 as printed).

In the list of participants in the research study, the name "C. Firenze" should have been deleted and the name "P. Bonnario" should have been replaced by C. Burlò, Service of Child and Adolescent Neuropsychiatry, ASL 8, Siracusa.
