

Angiographic Changes Suggestive of Vasospasm in Migraine Complicated by Stroke

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SYNOPSIS

A 30-year-old woman with a history of common migraine developed a permanent left homonymous hemianopia during a typical headache. CT scan demonstrated a right posterior cerebral infarction and angiography showed irregular narrowing of the ipsilateral posterior cerebral artery, suggestive of vasospasm. In the case no risk factors for atherosclerotic stroke were present except for smoking, and no other causes of stroke could be found.

Key words: vasospasm, complicated migraine, stroke

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INTRODUCTION

In a recent issue of this journal, Solomon et al.¹ reviewed all reported cases of angiographic changes suggestive of vasospasm associated with migraine. Altogether, they identified 13 cases in the English literature and added another one. These 14 cases involved classic migraine, including hemiplegic migraine, in 9; common migraine in 4; and ophthalmoplegic migraine in 2 (some cases apparently had more than one type of migraine). We would like to add to this series a case of complicated migraine, i.e. migraine complicated by stroke, with angiographic changes suggestive of vasospasm.

CASE HISTORY

A 30-year-old, right-handed woman had suffered from headaches since the age of 16 when she hit a tree while riding her motorbike. The headaches occurred 7 to 8 times per year and usually had their onset near the end of the afternoon. They reached their peak in the early evening and forced the patient to retire early. The headaches were always initially located across the forehead but, with increasing intensity, would draw to the right temple, where they were felt as a throbbing pain. They were never associated with nausea, vomiting, photo- or phono-phobia.

One day the patient developed a headache as described above and went to bed in the early evening with a throbbing pain in the right temple. Around 8:30 p.m. she drank some lemonade, after which she became nauseated and vomited all night. During the night she noticed a sensation of pins-and-needles in the left side of her body without any particular march. However, the strength of the left extremities remained fully intact.

In the early morning of the next day, the patient noticed difficulty seeing off to the left with either eye. For the whole day this persisted and so did the headache and the paresthesias. The headache was gone the following day, and that morning also the paresthesias disappeared, but then a heavy feeling developed in the left extremities. Patient also noticed a slight drop of the left corner of her mouth as well as a larger pupil on that side. The heavy feeling in the left extremities disappeared after 15 to 30 minutes but left some paresthesias in the left side of the upper lip and the ulnar side of the left forearm and hand. That same day the patient was admitted for diagnostic evaluation.

On admission a thin, pale woman was seen in no acute distress. She denied the use of oral contraceptives and ergotamine medications; however, she admitted to smoking 15 cigarettes per day. Her blood pressure was 115/70 and the pulse rate 68/min. No abnormalities were detected on examination of the carotids, heart, lungs and abdomen. Neurological examination showed a left homonymous hemi-anopia with sparing of central vision, and a slight hypesthesia over the left forearm and hand.

Routine hematological and blood chemical examinations including sedimentation rate, glucose and cholesterol were normal; lues serology was negative as were ANA, anti-DNA, Rose-Waaler and Latex fixation tests. Lumbar puncture revealed clear and colorless fluid under an opening pressure of 9 cm water. The CSF contained 7 leucocytes and 43 erythrocytes; the protein content was 0.57 g/l. The EKG showed a regular sinus rhythm without abnormalities and the echocardiogram did not show evidence of mitral valve prolaps. The CT scan revealed decreased den-

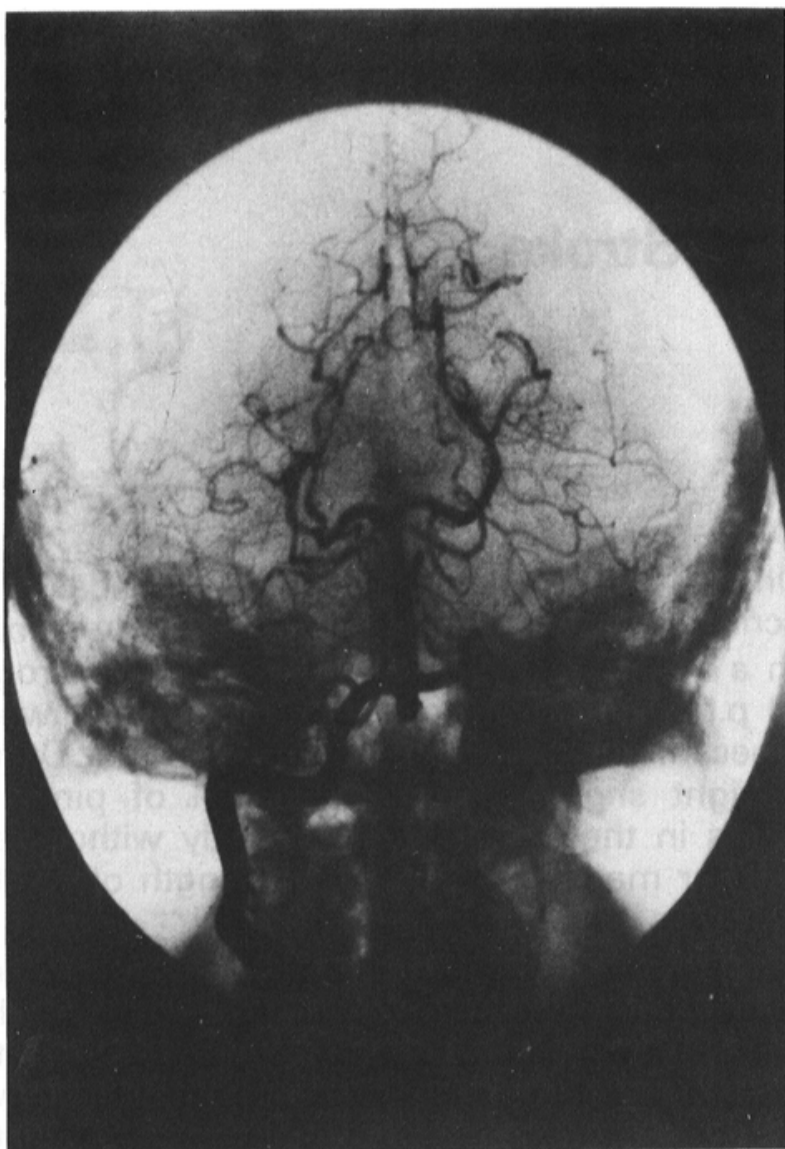


Fig 1.—Irregular narrowing of the right posterior cerebral artery suggestive of vasospasm.

sity in the territory of the right calcarine artery. Vertebral angiography showed irregular narrowing of the right posterior cerebral artery, suggestive of vasospasm (Figure 1).

Patient was seen once again approximately one month after the admission and was found still to have the homonymous hemianopia. On one occasion since admission she had experienced a left-sided frontal headache which had disappeared after a night's sleep.

DISCUSSION

In this paper we report on a stroke, shown by CT scan to be due to cerebral infarction, in a 30-year-old woman with a history of recurrent headaches compatible with the diagnosis of common migraine. The stroke comprised a permanent homonymous hemi-anopia and occurred during a typical headache. No risk factors for atherosclerotic stroke were present except for moderate smoking, and the patient was not on oral contraceptives or using ergotamine medications. Also, no other possible causes of stroke could be found, such as vasculitis or cardiogenic embolism. On angiography, irregular narrowing of the posterior cerebral artery contralateral to the hemianopia was observed, suggestive of vasospasm. It is suggested that in this particular case the stroke, which occurred during an attack of common migraine, was caused by cerebral vasospasm.

REFERENCE

1. Solomon S, Lipton RB, Harris PY: Arterial stenosis in migraine: spasm or arteriopathy? *Headache* 30:52-61, 1990.