

CASE REPORT

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Rosacea Triggered by Migraine Attacks

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ABSTRACT A 50-year-old female patient applied to the neurology outpatient clinic with the complaint of unilateral flushing accompanied by migraine attacks. She had a history of definite migraine for 10 years and 2 years ago, she had begun to experience episodic flushing, and burning sensation localized in her left cheek. Flushing episodes and migraine attacks were occurring simultaneously. According to the clinical findings and standardized skin surface biopsy result, the patient was diagnosed with neurogenic rosacea which is a rare condition. We would like to draw attention to neurogenic rosacea, which needs special management, in a patient with a long history of migraine.

Keywords: Migraine; rosacea

The rosacea is an inflammatory chronic facial skin condition which progresses with attacks and shares common neurovascular pathophysiology with migraine.¹ The coexistence of migraine and rosacea increases especially in women around the age of 50 and in the postmenopausal period.² We aimed to present a patient with the diagnosis of rosacea whose complaints of flushing and burning increased during the migraine attacks.

CASE REPORT

A 50-year-old female patient applied to the neurology outpatient clinic with the complaint of unilateral flushing accompanied by migraine attacks. The patient reported a history of migraine without aura since aged 40. Intense, pulsatile headache with nausea, photophobia and phonophobia, lateralized to the left hemicrania, aggravated by physical activity, were

lasting 4-5 hours and occurring 1-2 times per week. Two years ago, she had begun to experience an episodic flushing, burning and painful sensation localized in the left cheek. All flushing episodes started simultaneously with the headache and continued during the migraine attack. The intensity of the pain and the burning sensation did not vary from one attack to another. The erythema was seen on the other cheek only with high intensity headaches. In severe migraine attacks, with the pain passing from the left to the right side, the rash began to develop on the other cheek. There were erythema, edema and papulopustular lesions prominent during attacks but also present interictally (Figure 1). The patient had no stinging or sharp pain, except for the moderate discomfort caused by the burning facial sensation over the affected area. The burning pain as well as flushing localized mainly on the cheeks, not on the other sides of her face. Her attacks can also be triggered by

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FIGURE 1: A) Mild erythema, and papulopustular lesions present in interictal period of migraine on the left cheek. B) Erythema, edema and papulopustular lesions become prominent during migraine attacks on the left cheek.

chewing, but the redness and burning sensation are not as pronounced as in the accompanying migraine attacks. There was no one in her family had been diagnosed with rosacea. The neurological examination and laboratory findings were normal. A standardized skin surface biopsy taken from the left cheek revealed a density of 20 *Demodex*/cm². According to the clinical findings, the patient was diagnosed with neurogenic rosacea. Written consent was obtained from the patient.

DISCUSSION

There are very few studies in the literature with a limited number of patients examining the relationship between migraine and rosacea which is known as neurogenic rosacea.² The main reason why these two chronic diseases coexist is unknown.³ Increasing in cutaneous blood flow of the face during the migraine attack, predominantly on the pain side and neuropeptides which mediates vasodilatation (vasoactive intestinal peptide, calcitonin gene-related peptide, pituitary adenylate cyclase activating polypeptide and nitric oxide) may explain the pathophysiology of rosacea attacks that worsens in migraine.⁴ Skin colonisation of *Demodex folliculorum* mites is also related with inflammatory findings of rosacea as in our patient.⁵

Facial lateralized autonomic findings are highly typical for trigeminal-autonomic cephalalgias (TAC), but even cluster headache, which is the longest one of TACs, has shorter attacks, lasting 15-180 minutes. Our patient reported longer attacks satisfying migraine criteria. Symptoms of autonomic dysfunction may also occur in patients with migraine. Sympathetic responsiveness increases in ictal period and decreases in interictal period. As a reflection of this sympathetic activation, flushing with migraine headache has been widely reported.⁶ Therefore, flushing episodes and erythema accompanying migraine attacks could be incorrectly evaluated as autonomic findings of migraine only without detailed dermatological examination. We would like to draw attention to the differential diagnosis of this rare association of the comorbid appearance of rosacea, which needs special management, in a patient with a long history of migraine.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Buse Rahime Hasırcı Bayır; **Design:** Betül Baykan; **Control/Supervision:** Sema Aytekin; **Data Collection and/or Processing:** Emine Daşbaşı; **Analysis and/or Interpretation:** Betül Baykan; **Literature Review:** Buse Rahime Hasırcı Bayır; **Writing the Article:** Buse Rahime Hasırcı Bayır, Betül Baykan; **Critical Review:** Emine Daşbaşı; **References and Fundings:** Sema Aytekin; **Materials:** Emine Daşbaşı.

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