Headache in diabetes—occipital neuropathy

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Neuropathy is one of the most frequent and disabling complications of diabetes mellitus. Diabetic mononeuropathies can affect cranial or peripheral nerves, or nerve roots.

CASE HISTORIES

Case 1

A woman of 59 with a 21-year history of type 2 diabetes mellitus reported severe left-sided headache of sudden onset. She had already experienced a remarkable series of neuropathic episodes—right 4th nerve palsy (age 54); right 3rd nerve palsy with pupillary sparing (57); left 7th nerve palsy (58); right 6th nerve palsy (58); right ophthalmic trigeminal neuralgia (58); acute painful peripheral neuropathy (59). In the present instance the headache was characterized by unilateral occipito-parietal stabbing pains radiating to the frontal region and scalp tenderness in the occipital region. She was frequently kept awake at night by the pain and said she could not bear to put her head on the pillow, the contact causing an exacerbation. She had no sensory loss in the cervical root distribution and no occipital tenderness. She had experienced the pain for the first time about 2 years previously, when it lasted for four to six months on and off and then moved to the contralateral side of her head. The pain was typically neuralgic in nature, and was felt to be yet another manifestation of mononeuritis multiplex. Carbamazepine only helped a little and she was intolerant of tricyclic antidepressants. The pain settled spontaneously a few months later. The following year she developed another mononeuropathy—left maxillary trigeminal neuralgia.

Case 2

A woman aged 37 with a 14-year history of uncomplicated type 1 diabetes mellitus developed severe left-sided occipito-parietal headaches. Her glycaemic control had formerly been very good, but had deteriorated about 2 years before the onset of headaches. The agonizing stabbing pains initially lasted a few seconds at a time, but subsequently increased in duration to a few hours at a time. She reported an underlying 'bruised' sensation in the left occipital area radiating into her left ear, and associated scalp tenderness. When the pain was present she found it impossible to touch her head or brush her hair. Sensation was reduced over the painful area. Diclofenac, carbamazepine, phenytoin, gabapentin and amitriptyline were ineffective. A left greater occipital nerve block with local anaesthetic and steroids gave her complete relief from pain but she needed one further injection six months later.

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COMMENT

Occipital neuralgia is caused by irritation or injury usually to the greater occipital nerve but sometimes to the lesser.[1] The International Headache Society defines it as 'a paroxysmal jabbing pain in the distribution of the greater or lesser occipital nerve, accompanied by diminished sensation or dysaesthesia in the affected area', adding that the pain is commonly associated with tenderness over the nerve concerned.[2] In addition to the characteristic neuralgic pains, a background aching may persist, as was particularly evident in our second patient.[2] Tinel's sign, defined as a distal tingling[3] or worsening of the headache[4] on percussion of the greater occipital nerve, is often positive.[4,5]

Pain can radiate from the occipital to the frontal and orbital regions,[1,4,6] sometimes with nasal or visual symptoms. A key diagnostic feature is an almost immediate, dramatic, and often prolonged response of the pain after infiltration of local anaesthetic near the tender nerve trunk.[1,4,5] Chemical or surgical ablations of the occipital nerve are other therapeutic options.

In patient 1, the occurrence of this rare disorder in the context of serial episodes of diabetic mononeuropathy points to a causal connection. In patient 2 the evidence is less strong, though diabetic patients are prone to neuropathies of all kinds. Surprisingly, we could find virtually no mention of an association between diabetes and occipital neuropathy in English-language journals or textbooks.

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