

Occipital Neuralgia

Occipital Neuralgia - Symptoms, Diagnosis, and Treatment

Key Points:

1. Occipital neuralgia may be a cause of head pain originating in the occipital region (back of the head).
2. Pain is episodic, brief, severe, and shock-like. It originates from the occipital region and radiates along the course of the occipital nerves.
3. Attacks may be triggered by routine activities such as brushing the hair, moving the neck, or resting the head on a pillow.
4. Antiepileptic medications, tricyclic anti-depressants, and nerve blocks may be used for treatment.

Introduction:

Occipital neuralgia (ON) is a relatively rare primary headache disorder (primary headache disorders are not symptoms of or caused by another condition) affecting around 3.2/100,000 people per year.¹ The term “neuralgia” refers to pain in the distribution of a nerve, in this case the occipital nerves. The greater, lesser, and third occipital nerves originate from the upper cervical nerve roots, course up the neck muscles, and exit near the base of the skull. These pure sensory nerves provide sensation to the back of the head, up to the top of the head, and behind the ears.

The cause of ON is unknown; however, entrapment and irritation of the nerves have been proposed. Pain secondary to trauma such as whiplash injuries, inflammation, and compression of the occipital nerves by arteries or tumors have all been hypothesized, but no consensus has been reached.^{1,2}

ON may be provoked (triggered) simply by touching the affected region. Activities such as brushing the hair, wearing a hat, or lying on a pillow may trigger an attack.² During an attack, abnormal and unpleasant sensations on the scalp may occur. A dull ache may persist between attacks.

Symptoms:³

- Pain in the distribution of the greater, lesser, and or third occipital nerves (Greater occipital nerve involvement on one side is most common presentation).
- Attacks are episodic and last a few seconds to minutes.
- Pain is piercing, stabbing, or sharp in quality, and severe in intensity.
- Unpleasant sensations in the region of the occipital nerves may occur
- Severe tenderness may be felt over the affected nerves

Differential Diagnosis:

Occipital pain is common amongst headache and migraine sufferers, often leading to a

misdiagnosis of ON. Significant overlap exists between ON and migraine in terms of the severity, occipital tenderness, and response to occipital nerve blocks (2). Migraine pain by definition lasts significantly longer than ON. Other primary headache disorders such as cluster headache and hemicrania continua may present with occipital tenderness, but are associated with autonomic signs such as eye watering, eyelid dropping, or eye redness; these features are not typically seen in ON. Cervicogenic headaches resulting from pain from the nerve roots in the upper neck may have similar symptoms as ON, but typically are described a dull ache as opposed to piercing or stabbing pain. In certain patients, inflammation of the occipital artery and other causes of nerve root irritation may need to be considered as causes of pain.

Diagnosis:

ON is diagnosed based on a thorough history and physical exam. The neurologic exam will often be normal. During the exam, the practitioner will push on the occipital nerves in an effort to temporarily elicit a pain response. By diagnostic criteria, the pain will be eased temporarily by injection of a local anesthetic along the affected nerve (occipital nerve block). However, the practitioner may wish to try conservative methods of treatment before opting for injections.

Treatment:²

Conservative methods of treatment for ON include warm compresses, massage, and physical therapy. Anti-inflammatory medications and muscle relaxers, such as baclofen, may provide relief of symptoms. Antiepileptic drugs (such as carbamazepine, gabapentin, and pregabalin), and tricyclic antidepressants are often used as preventative medications in an effort to decrease the frequency and severity of attacks.

When conservative measures are ineffective, occipital nerve blocks are a convenient and relatively benign tool for diagnosis and pain relief while in the office. The patient sits on a chair with their arms folded on a table in front of them, placing the head on the folded arms. The practitioner will inject a local anesthetic in the back of the head along the affected occipital nerve(s). Often immediate relief is felt which may last up to 12 weeks, at which time the injection may be repeated. Side-effects most commonly encountered include dizziness, lightheadedness, and injection site soreness.

For cases which are difficult to control, pulsed radiofrequency and occipital nerve stimulation are procedures which have shown some benefit.

Sources:

¹ Gadiant, Paul M.; Smith, Jonathan. "[The Neuralgias: Diagnosis and Management](#)." *Curr Neurol Neurosci Rep* (2014) 14:459.

² Dougherty, Carrie. "[Occipital Neuralgia](#)." *Curr Pain Headache Rep* (2014) 18:411.

³ Headache Classification Committee of the International Headache Society. "[The International Classification of Headache Disorders, 3rd edition](#) (beta version)." *Cephalalgia*. July 2013 vol. 33 no. 9 629-808 10.1177/0333102413485658