

Occipital Neuralgia

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Anatomy

- The Greater Occipital Nerve arises from CN 1,2,3

Signs and Symptoms

- Sharp, lancinating, shooting pain in back of head
- Usually unilateral
- May be spontaneous or triggered by touching area behind ear along nuchal line
- May have ocular pain
- May have decreased sensation to pin prick in occipital region

Differential Diagnosis

- Migraine
- Cervical spine arthritis
- Pain secondary to Chiari malformation

Etiology

- Traumatic injury to nerve
- Facial scarring around the nerve as it penetrates muscle
- Cervical spine arthritis and compression of cervical nerves 1,2,3

Diagnostic studies

- Cervical spine films to evaluate for arthritic changes and instability (flexion/extension films)
- CT cervical spine to evaluate nerve root foramina
- MR to evaluate for tumor, Chiari I malformation
- Peripheral nerve block
- CT guided nerve block of cervical roots C_{2,3}

Treatment

- Physical therapy with massage, heat
- Peripheral nerve blocks using –caine medications mixed with steroid
- Oral pain medications
- Anti-inflammatory medications (steroids; NSAID)
- Peripheral radiofrequency rhizotomy
- Peripheral occipital nerve sectioning
- Muscle fascial release to decompress nerve
- Occipital nerve decompression at neural foramina
- Intradural dorsal nerve root sectioning (C_{1,2}, upper fascicles C₃) (see surgical video on this web site's video section)

Complications and Side Effects

- All surgical procedures create permanent decreased sensation or numbness in the occipital region
- Pain may recur despite continued permanent numbness. Reason may be central pain generation in brain or spinal cord and may be secondary to connections between the C_{1,2,3} nerves and the trigeminal spinal nucleus located in the upper cervical spinal cord
- Shoulder and neck weakness (<1%)
- Infection <5%)
- Spinal fluid leak (<5%)
- Weakness/Paralysis (<1%)