

## Definitions

**cerebellar tonsils** - portion of the cerebellum located at the bottom, so named because of their shape

**cerebellum** - part of the brain located at the bottom of the skull, near the opening to the spinal area; important for muscle control, movement, and balance

**cerebrospinal fluid (CSF)** - clear liquid which surrounds, and protects, the brain and spinal cord

**cervical** - the upper part of the spine; the neck area

**Chiari malformation** - condition where the cerebellar tonsils are displaced out of the skull area into the spinal area, causing compression of brain tissue and disruption of CSF flow

**decompression surgery** - common term for any of several variations of a surgical procedure to alleviate a Chiari malformation

**hydrocephalus** - condition characterized by excess spinal fluid in the brain

**laminectomy** - surgical removal of part (the bony arch) of one or more vertebrae

**magnetic resonance imaging (MRI)** - diagnostic test which uses a large magnet to create images of internal body parts

**shunt** - tube like device implanted to drain or divert spinal fluid

**trigeminal nerve** - also known as the 5th cranial nerve, one of the main nerves of the face, controls the muscles of the jaw

**trigeminal neuralgia** - disorder of the trigeminal nerve, causing severe pain in the jaw and face

## Chiari & Trigeminal Neuralgia

Case Studies is a feature designed to highlight interesting patient cases reported in the research. Given the lack of knowledge about CM/SM, much of the published research comes in the form of case studies - doctors describing one or two patients they have seen and treated - as opposed to rigorous scientific studies. While this type of publication doesn't advance the scientific cause as much, it does give us a window into some of the issues surrounding CM/SM, including lasting side effects and related conditions. And hopefully, some of our readers will say, "Hey, that's just like me!" and know they are not alone in what they are going through.

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### Trigeminal Neuralgia Secondary To Chiari's Malformation - Treatment With Ventriculoperitoneal Shunt

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**Introduction:** Trigeminal neuralgia (TN) is a disorder of the trigeminal nerve, one of the main nerves of the face, and the one responsible for chewing and jaw movement. TN is characterized by intense, intermittent pain in the jaw area. It can be treated medically or in some cases surgically.

**Patient:** 31 year old man had been experiencing intermittent, electric-shock type pain in his right jaw for 6 months. The pain was caused by chewing, brushing teeth, and touch. Neurological exam was normal. Trigeminal neuralgia was diagnosed.

**Treatment:** Initially, the man was given medicine for the pain which helped for almost 2 years. However, eventually the pain came back and an MRI revealed hydrocephalus and a Chiari malformation. The doctors believed the TN was due to the hydrocephalus/Chiari. They decided to treat the hydrocephalus by implanting a shunt to drain the CSF and if that failed, they would try decompression surgery.

**Outcome:** About 4 weeks after this surgery, the TN pain suddenly resolved and the man was able to stop taking medication. Imaging tests showed the shunt was functioning and the hydrocephalus was resolved.

**Author's Discussion:** The authors point out that this is an unusual cause of trigeminal neuralgia and that an association between TN and Chiari has only been reported 6 times in the medical literature. They also discuss that the mechanism underlying the link between TN and Chiari (or hydrocephalus) is not well understood.

**Editor's Discussion:** Similar to other secondary conditions caused by Chiari, such as scoliosis, this case demonstrates that treating the underlying cause is usually the preferred treatment route. It also highlights how Chiari can cause symptoms associated with the cranial nerves, 12 pairs of nerves which originate in the brain, not the spine.

For more information on trigeminal neuralgia: [www.tna-support.org/](http://www.tna-support.org/)

--Rick Labuda

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