

Definitions

atrophy - wasting away, possibly due to nerve damage

Carpal Tunnel Syndrome - condition where a nerve, which passes through a tunnel like structure in the wrist, becomes compressed and causes hand numbness, pain, and weakness

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

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

dysesthesia - an unpleasant, abnormal sensation

electrodiagnostics - group of tests which use low levels of electricity to determine if nerves are functioning properly

syringomyelia (SM) - neurological condition where a fluid filled cyst forms in the spinal cord

syrinx - fluid filled cyst in the spinal cord

Football, Car Accident & Chiari; Carpal Tunnel Symptoms

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.

CASE 1: Football, Car Accident & Chiari

Reported In: Poster at the 2003 Technical Meeting of the American Academy of Physical Medicine and Rehabilitation; published on-line September, 2003.

Doctors: Mary Keen, MD; Steve Gnatz, MD; Marionjoy Rehabilitation Hospital, Wheaton, Illinois

Patient:

- 15 year old male football player
- Right arm pain and weakness
- Suffered a right forearm fracture 1-yr prior in a car accident
- Physical exam revealed atrophy of some muscles on the right side
- Electrodiagnostic studies were normal
- An MRI was ordered to look for herniated disks
- MRI revealed an 11mm Chiari malformation
- Decompression surgery was performed
- Patient's symptoms resolved completely and he returned to playing football

Observations:

- Although Chiari was not suspected, the incidental finding was clearly tied to the patient's symptoms

Ed Note: *This is an interesting case because it highlights the unknown role which trauma plays in Chiari. Did the car accident trigger symptoms? Would he have become symptomatic later in life due to the heavy level of contact in football? If he weren't in a car accident and never played football, would he have ever become symptomatic? Also, does trauma only aggravate symptoms, or can it actually increase the size of the herniation?*

CASE : Carpel Tunnel Symptoms

Reported In: Archive of Physical Medicine and Rehabilitation, January, 2004

Doctors: Mark Zadeh, MD; James Richardson, MD; Dept. of Physical Medicine and Rehabilitation, University of Michigan, Ann Arbor

Patient:

- 26 year old, female, administrative assistant
- 3 years of left-hand dysesthesia; symptoms were worse at night and while using a keyboard
- Patient had been to a doctor 12 times and had tried splints and gabapentin
- Symptoms progressed (gabapentin helped a little) over time
- When patient came to the author's clinic, a careful history revealed that the symptoms had come on suddenly after she was in bed for 2 weeks with a severe stomach virus and had thrown up repeatedly
- History also revealed that symptoms got worse when her neck was bent and that lying down improved the symptoms

- Doctors suspected a nerve problem and ordered an MRI
- MRI revealed a Chiari malformation and a large syrinx extending from C2-T10
- Decompression surgery improved her symptoms, but they did not go away completely

Observations:

- Carpal Tunnel Syndrome (CTS) is the most common diagnosis for hand numbness, however definitive CTS diagnosis is difficult
- CTS symptoms can mask other nerve problems, including syringomyelia
- Sudden onset of symptoms was not typical of CTS
- Worsening symptoms with neck position was not typical of CTS, but did suggest a problem with the nerves in the neck

Ed Note: *This case highlights a number of the more troubling aspects of syringomyelia. The patient had been to doctors numerous times over a period of more than 3 years before being accurately diagnosed. Unfortunately, this - going years before diagnosis - is all too common. The sudden onset of symptoms after repeated vomiting also shows how straining can profoundly effect people with Chiari and syringomyelia.*

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