Chiari I Malformation in a Collegiate Athlete

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Background: The subject is a 20-year-old male soccer player with a history of concussions. At the time of his last concussion he experiences headache pain which went from frontal and intermediate to more occipital and constant. On September 1, 2008, the athlete came into the athletic training room complaining of “sharp” headache pain which lasted one week. His headache pain was an 8-9/10 during and after sport activity, PEARL and tracking were within normal limits. The athlete was referred to a physician due to his past medical history and was not allowed to return to play until cleared by a physician. Differential Diagnosis: Prior to a physician’s evaluation the athlete had experienced several concussions. Before diagnostic testing was performed the athlete’s primary physician diagnosed the athlete with migraines; which is the most common misdiagnosis. He then referred to a neurologist who first diagnosed the athlete with post concussion syndrome. When symptoms did not improve the athlete sought a second opinion. Treatment: The athlete’s primary care physician placed him on migraine medication and was allowed to return to play. The first neurologist put the athlete on Topamax and Gabapentin and he was allowed to return to play. After being diagnosed with post concussion syndrome the athlete’s symptoms did not subside and an MRI was done to show findings of Chiari I Malformation and the athlete was not allowed to return to play. The findings from the second neurologist showed Chiari I Malformation. The athlete was placed on Acetazolamide and had a cervical MRI done to rule out a syrinx. The athlete was not allowed to return to play and surgery was recommended. Uniqueness: This case is unique because of the following factors: When presented with this case the athlete had not sustained any current head trauma; his last concussion was a year prior. The main complaint of the athlete was the constant headache which was occurring in the occipital region. Headaches are seen as the most common symptom but usually worsen with activity or valsalva maneuver. The athlete only experienced worsening of the headache during and after activity. After a full assessment was done by the athletic trainer and no conclusion to why this was occurring the athlete was referred to a physician. Another unique factor was that his primary care physician and the first neurologist’s primary implications were other neurological symptoms. It was not until an MRI was performed that the athlete was diagnosed with Chiari I Malformation. Lastly, this case became very educational; not many athletic trainers know of this condition. Conclusion: The Chiari I Malformation is a malformation where the cerebral tonsils descend through the foramen magnum. This descent in most cases will cause pressure on the spinal canal restricting the flow of cerebral spinal fluid. Even though the symptoms are wide in variety causing misdiagnosis, diagnostic testing must be performed to completely assess the problem. Early diagnosis is crucial as syrinx and other problems can arise causing irreversible damage. In most cases, surgery becomes the options for most patients. In conclusion patients with Chiari I Malformation can live a normal life, but unfortunately their athletic activity may be significantly decreased. Word Count: 545