Multiple sclerosis (MS) is an autoimmune neurologic disease that affects hundreds of thousands of people in the United States, causing significant functional disability. The majority of onset and diagnoses occur between the ages of 20 and 40. Only rare reports of athletes returning to competition after a MS diagnosis appear in the literature. This case study details the onset of symptoms, treatment, and return to play of a collegiate athlete following the diagnosis of MS.

Multiple sclerosis Presenting as Acute Facial Paresthesia in a Male Collegiate Golfer

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Case Report

Personal Data and Chief Complaint

A 22-year-old White male NCAA Division II golfer presented to the sports medicine staff with two days of facial numbness. The numbness had begun at his right ear and increased in area over the two days. He denied pain but reported an uncomfortable feeling. On the morning in question, he woke with right arm and hand paresthesia that improved over the 45 minutes after he awakened.

Physical Examination and Medical History

The athlete denied malaise, rhinorrhea, cough, and sore throat but reported a strong history (hx) of seasonal allergies that were not worse than usual. He denied other unusual symptoms or any significant past medical problems. HEENT (head, eye, ear, nose, and throat) exam was normal with the exception of a Weber test (placing a vibrating tuning fork on the vertex of the head) that lateralized to the left ear, suggesting perceptive, or neural, loss of hearing of the right ear. The eye exam was normal with acceptable visual acuity and normal pupillary reaction. Cranial nerves II-XII were otherwise normal.

The athlete was referred by the staff athletic trainer and seen by the team physician two days later. His chief complaint at the time was pain on the right side of his neck that radiated down his right arm. He reported the pain starting about one week earlier and that he “cracked” or self-manipulated his own neck frequently. He had been participating in the usual team practices of approximately 20 hours per week, with 12 hours on the golf course and 8 with skill drills of chipping, putting, and driving. He denied any unusual stressors in his life. He had contacted his personal physician to get Vicodin for the pain. The team physician referred the athlete to a neurologist and restricted physical activity at that time. The athlete saw the neurologist one week after the initial presentation to the sports medicine staff. His chief complaint to the neurologist was right sided numbness of the face, arm, and hand.

Differential Diagnosis

The initial differential diagnoses consisted primarily of demyelinating diseases. The list included Bell’s palsy, meningitis, multiple sclerosis, amyotrophic lateral sclerosis, Guillain-Barre syndrome, migraine headaches, and disseminated sclerosis.

Bell’s palsy is an autoimmune disease that affects the myelin sheath, more specifically of cranial nerve seven and is characterized by a facial droop. Meningitis...
is a viral or bacterial infection that causes inflammation of the meninges, the layered covering of the brain, and is distinguished by fever and severe headache. Amyotrophic lateral sclerosis is also known as Lou Gehrig’s disease. This condition affects the myelin sheath of both the upper and lower motor neurons; muscle atrophy is the hallmark of this disease with a peak onset incidence between the ages of 40 and 60. Guillain-Barre syndrome is a rare disorder that targets peripheral nerve fibers resulting in weakness that may progress to paralysis. Disseminated sclerosis is similar to multiple sclerosis, tending, however, to affect a larger area.

This athlete was tentatively diagnosed with a demyelinating disease, so a MRI of the brain and cervical spine was ordered. The neurologist requested a stroke workup for patients under 50 years of age (see Table 1), which subsequently was within normal limits. At this time he was restricted from play and prescribed aspirin, which was initiated for its ability to inhibit platelets because of the possibility the athlete was suffering from a thrombotic phenomenon resulting in a stroke.

Nine days after initial presentation, the MRI scan was conducted. At this time, the athlete was reporting numbness in the extremities. The MRI findings were numerous, oval-shaped T2/Flair hyperintensities in the periventricular and deep white matter within the frontal, parietal, and temporal lobes bilaterally. A lesion in the subependymal region of the posterior left temporal lobe was noted. A lesion was also seen in the left parietal periventricular white matter of the axial and sagittal series. A third lesion was situated in the subependymal region near the frontal horn of the right lateral ventricle. Another tiny lesion was seen in the left frontal region (see Figure 1). The overall pattern of findings was most consistent with manifestations of a demyelinating disease related to multiple sclerosis, and this was the diagnosis delivered to the athlete.

Treatment

The athlete was started on copaxone, a self-injection of 20 milligrams once per day, which he currently continues. Copaxone is the trade name of glatiramer acetate, an immunomodulator thought to induce suppressor T cells to decrease the autoimmune destruction of the myelin sheath. He was cleared to play by the neurologist with no restrictions three weeks after the initial presentation. Once the athlete was released to full activity, he continued to practice golf. He did not compete on the traveling squad with his original institution in the spring semester, but he began competing in summer golf tournaments six months after his diagnosis. He transferred to another NCAA Division II college closer to his home the summer after diagnosis for both medical and family reasons. He currently is playing in every tournament with his new college team. Twenty-two months after the diagnosis, the athlete has not experienced any exacerbations.

This athlete had originally begun competing at a collegiate level as a freshman. During that season, his scores were a mixture of average and exceptional, as shown in Table 2. While attending his original NCAA Division II institution, his average score was a 75, which is acceptable for a collegiate level golfer. As a sophomore, he did not qualify for the traveling tour-

| Table 1. Stroke Work-Up in Patients Younger Than 50 Years of Age |
|-----------------|-----------------|-----------------|-----------------|
| Lipid profile   | Homocysteine    | Protein C       | ANA with reflex |
| Lupus anticoagulant | Factor Leiden | Anticardiolipin | Antibody screen |
| Antithrombin 3 antigen | Erythrocyte sedimentation rate |

Figure 1 Transverse MRI view of patient revealing presence of plaque.