Unilateral Facial Nerve Paralysis Secondary to a Concussion in a NCAA Division I Women’s Basketball Player: A Case Report
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**Background:** A 20-year-old, previously healthy, National Collegiate Athletic Association Division I female basketball player, sustained a concussion from a direct blow of a basketball to her cranio-orbital region. The athlete did not report her concussion until after receiving another hit to her lip three days later. The athlete had no previous history of concussions. During her recovery, approximately 5 weeks after the concussion injury was sustained, the athlete was referred to an emergency room after losing sensation and movement on the right side of her face. The athlete was diagnosed by a neurologist with Bell’s palsy. **Differential Diagnosis:** Potential diagnoses include: mild traumatic brain injury, concussion, facial nerve palsy, cranial nerve inflammation secondary to concussion, Lyme disease, Ramsay-Hunt syndrome, and Bell’s palsy. **Treatment:** The athlete was immediately instructed to discontinue participation in sports and from classes. She was also instructed to refrain from using her computer, watching television, reading, and using her cell phone for tasks other than phone calls. The athlete was initially non-compliant with these instructions. The athlete was informed she could take acetaminophen, but only when necessary. A Lyme disease test was ordered in relation to the Bell’s palsy, which yielded a negative result. The Bell’s palsy was treated with prednisone (60 mg) for one month. Electrical stimulation and heat wand therapy were also used to treat her Bell’s palsy on a daily basis for two and a half weeks, and her symptoms completely resolved within 4 weeks. The athlete was placed on nortriptyline (20 mg) for 3 weeks to break her cycle of headaches which had been occurring for 13 weeks post-concussion. She was fully cleared to play 39 weeks post-concussion. **Uniqueness:** This athlete has a family history of Bell’s palsy, which is found in 10% of cases. The annual incidence of Bell’s palsy is approximately 20 per 100,000 population. A neurologist diagnosed the facial nerve palsy as nerve inflammation secondary to the concussion. **Conclusions:** All baseline concussion testing should include a portion on family history of certain conditions, such as Bell’s palsy. Athletes who respond with having such history should be monitored more closely in regards to concussions. These athletes may be predisposed to conditions which develop concurrently with the pathophysiology of ion fluxes present with concussions. The physiological effects of ion fluxes produce intracranial pressure and cerebral edema leaving the brain susceptible to secondary injury. Health care providers should be aware of secondary injury to cranial nerves which can be present post-concussion—both immediately and after a prolonged period of time. **Word Count:** 420.