Golf-Related Head Injuries Come to Fore in Kids

BY PATRICE WENDLING
Chicago Bureau

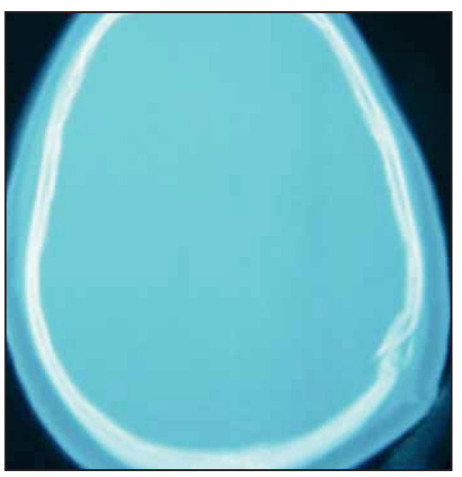
As the number of children taking to the links has steadily risen, so too has the number of pediatric golf-related head injuries.

Golf-related accidents were the second most common cause of sports-related injury, after bicycle use, among 2,546 patients younger than 19 years who were evaluated by neurosurgeons for any cause at the Medical College of Georgia in Augusta between 1996 and 2002. A chart review revealed 64 sports-related injuries, 15 (23%) of which were golf-related, according to Scott Y. Rahimi, M.D., lead author and neurosurgery resident at the medical college.

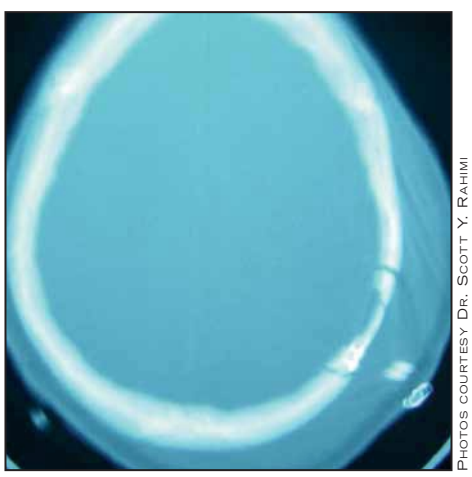
Seven of the golf injuries were caused by golf cart accidents, seven by golf clubs, and one by a golf ball (J. Neurosurg. [Pediatrics 2] 2005;102:163-6).

The mean age of the children in the study was 7 years, and the youngest was 9 months.

The most common injury was depressed skull fractures, which occurred in 7 (47%) of the 15 cases, followed by nondisplaced skull fractures in 3 (20%), subarachnoid hemorrhage in 2 (13%), epidural hematoma in 2 (13%), and subdural hematoma in 1 (6%).



Depressed skull fractures were the most common golf-related head injury found.



Titanium screws and plates were used to correct the depressed skull fracture.

PHOTOS COURTESY DR. SCOTT Y. RAHIMI

Six children required neurosurgical procedures for their injuries. Twelve patients made full recoveries, including nine patients who were managed conservatively.

One child developed chronic headaches after a 3-year follow-up. Another child required permanent shunt placement and underwent multiple shunt revisions due to device malfunction. One child died due to uncontrollable cerebral edema following a golf-cart accident.

A review of the literature by the investigators found that not only are golf-related injuries increasing, but they are the leading type of sports injury in regions where golf is popular, Dr. Rahimi and his colleagues wrote. Augusta, where this research was conducted, is home of the Masters Golf Tournament and a hotbed of golf enthusiasm.

The authors cite a 1997 review of head injuries at the Westchester Medical Center in New York in the 3-month period following Tiger Woods' first Masters championship. The review showed that of the eight children who required surgery for their head injury, half had a depressed skull fracture from a golf club. No similar golf injuries were seen in the 12 months prior to Mr. Woods' win (Surg. Neurol. 1998;50:608).

A report by the Consumer Product Safety Commission identified 19 deaths between 1973 and 1996 that were a direct consequence of children playing with golf clubs (Percept. Mot. Skills 1998;86:747-53).

Golf-related injuries most often involve golf clubs and balls and occur at parks and homes, rather than at golf courses.

Still, the author noted, the more widespread use of golf carts also contributes to the increase in accidents.

As a way to prevent or reduce injuries, Dr. Rahimi and his colleagues recommended precautionary guidelines and safety training programs, proper storage of golf clubs, adult supervision of golf-club and golf-cart use, and the requirement of a minimum legal age to drive a golf cart. In Georgia and many other states, it is illegal to drive a golf cart without a valid driver's license. ■

PTSD Risk Highest in First Months After Traumatic Brain Injury

MARCO ISLAND, FLA. — Posttraumatic stress disorder is not uncommon after moderate-to-severe traumatic brain injury, Jesse R. Fann, M.D., said at the annual meeting of the Academy of Psychosomatic Medicine.

Many people experience anxiety after moderate-to-severe traumatic brain injury. Because both brain injury and dissociation from posttraumatic stress disorder (PTSD) can impair declarative memory, the true occurrence of PTSD remains controversial, noted Dr. Fann, director of the psychiatry and psychology consultation service at the Seattle Cancer Care Alliance.

In a 6-month prospective follow-up study, the researchers assessed 124 patients admitted to Harborview Medical Center in Seattle following traumatic brain injury to determine the incidence of PTSD, the risk factors, and how PTSD symptoms manifest in this population.

Researchers did monthly assessments with the PTSD Checklist–Civilian Version, the Patient Health Questionnaire, and the Self-Reported Health Status (SF-1) instruments. The first month had the highest incidence of PTSD, about 13%. "A lot of the PTSD may not be prolonged, lasting 1-3 months," he said.

Patients with lower levels of education and those injured in an assault were significantly more likely to meet criteria for the disorder. Participants who met PTSD criteria most commonly reported feeling sad when recalling aspects of the event and feeling cut off from others, jumpy, hypervigilant, and irritable. Sleep disturbances were common.

The investigators looked at PTSD symptom clusters and found arousal symptoms present in 23% of assessments over the 6 months. They also found intrusive symptoms in 20%, and avoidance and numbing in 8%.

"There is a significant overlap of other comorbid psychiatric disorders, such as anxiety and depression, that can present a diagnostic challenge," Dr. Fann said. "There is also overlap of PTSD and traumatic brain injury symptoms."

The researchers also assessed patients for major depressive disorder, panic disorder, and other anxiety disorders. PTSD was significantly associated with current major depression, any other anxiety disorder, a blood alcohol level greater than 0.08, and a psychiatric history, according to a univariate analysis. A logistic regression analysis showed that people with a history of PTSD reported significantly increased functional impairment compared with those without PTSD. There also was a trend toward poorer self-reported health status among participants with PTSD.

The study was funded by NIH's National Center for Medical Rehabilitation Research.

—Damian McNamara

Nontraumatic Myelopathy Described in Novice Surfers

BY JANE SALODOF MACNEIL
Southwest Bureau

SCOTTSDALE, ARIZ. — Physicians in Hawaii have described a mysterious nontraumatic myelopathy in seven young people who became weak and could not stand shortly after taking an otherwise uneventful surfing lesson.

Typically, the novices felt some discomfort or pain during the lesson but continued to surf for 15-20 minutes. They did not notice weakness or paresthesias until 10-60 minutes after the onset of symptoms.

By that time, they were sitting on the beach and could not get up. The patients all had symptoms of neurogenic bladder as well.

"We've done all this imaging to try to see what was going on with them. None of them had back fractures, but they had paraplegia—some for a couple of weeks," Cherylee W.J. Chang, M.D., said at the annual meeting of the Neurocritical Care Society, where she described the cases in a poster.

All seven patients were treated acutely with methylprednisolone (Solu-Medrol). Over time, six patients improved by 1-3 grades on the Acute Spinal Injury Association impairment scale.

Paraplegia appears to be permanent in the oldest patient, a 31-year-old man from Illinois, according to Dr. Chang of the Queen's Medical Center in Honolulu, where she is medical director of the Neuroscience Institute and neurocritical care director of the stroke center.

Dr. Chang said she first heard of a similar case in 1997. After learning of a third surfer with nontraumatic myelopathy, she began collecting case reports. The four males and three females, aged 15-31 years, described in the poster were hospitalized at the Queen's Medical Center during June 2002 to July 2004.

Only one patient had surfed before. The common factor was a basic maneuver in which they hyperextended from a prone to a standing position on their surfboards. Dr. Chang theorized that the rapid movement probably put substantial pressure on their disks.

Plain films and CT scans did not find any fractures. Serologic and cerebrospinal fluid tests were negative, but lumbar punctures revealed elevated protein, along with increases in red and white blood cells. CT angiograms, done in three patients, showed no aortic dissection.

MRI of the spinal cord produced a clue in all but one patient: changes from T7, T8, or T10 to the conus. Several patients also had loss of disk height or small disk protrusions.

Based on these changes and the young age of the patients, Dr. Chang and her colleagues hypothesized that a rise in disk pressure might have caused extrusion of disk materials into small blood vessels leading to fibrocartilaginous embolization.

"In young people, the disk is still cartilaginous and kind of mushy and wet. In old people, it's probably fiber; if you squish it, it's not going anywhere," she said, speculating that the cartilage had gotten "squished into the vein and into the spinal cord."

"I can't prove that, because none of our patients died, thank goodness," she said. "But it's the theory of why this might be happening."

Dr. Chang is continuing to follow these patients. She said she has heard of a dozen cases at other hospitals in Hawaii and is curious to learn whether physicians have seen similar patients in other surfing communities. ■