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SPORTS

Soccer heading could lead to brain injury

BY DALINA CASTELLANOS, LOS ANGELES TIMES/ FOR THE BOOSTER SHOTS BLOG

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Heading a soccer ball can lead to moments of glory, but it could also lead to a future of pain. Radiologists reported Tuesday that repeated heading could cause brain injury and cognitive impairment characteristic of concussion.

A [study](#) followed 38 amateur soccer players who had been playing the sport since childhood and found that using your head more than 1,000 to 1,500 times within a 12-month period could cause symptoms of cognitive dysfunction similar to those seen in patients who have suffered from a concussion, said study leader Dr. Michael Lipton, director of radiology research at Albert Einstein College of Medicine of Yeshiva University in New York.

That many instances of heading may seem unattainable if you only participate in the occasional Sunday pick-up game. But to the regular player, it can add up fairly quick. Warm-up drills in which players head the ball to each other or to their coach all add to the tally, Lipton said.

Using diffusion tensor imaging -- a type of MRI -- and a questionnaire, researchers compared the brain scans of the players who reported heading the ball more frequently to those who didn't. The results showed that frequent headers showed brain injuries similar to those seen in patients with concussion.

“Initially, the plan was to see if we could see an incremental change in the brain before and after an injury,” Lipton said. Soccer players were a great test group because of the frequency with which some experience concussions, he said. However, players with previous injuries that may have impaired their cognition were excluded from the study.

The players in the study who seemed to (physically) use their heads in the game more than their peers performed worse in tests of verbal memory and activities that required mind-body coordination. Ironically, that’s exactly what’s required to play the game well.

The study, presented at the Radiological Society of North America’s annual meeting Tuesday, isn’t meant to worry soccer moms or players who are perfecting their heading skills, Lipton said. But it should serve as a warning that there is a risk.

“Heading a soccer ball is not an impact of a magnitude that will lacerate nerve fibers in the brain,” Lipton said. “But repetitive heading may set off a cascade of responses that can lead to degeneration of cells.”

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