

Concussive seizure in a 16-year-old football goalkeeper

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Concussive seizure is defined as a seizure occurring within seconds of a head injury, typically presenting as loss of consciousness and a brief tonic phase, followed by bilateral myoclonic or clonic jerking of the extremities lasting no longer than 150 seconds [1-3]. Neuroimaging studies and EEG are usually normal, and there is no risk for recurrence.

A 16-year-old football goalkeeper experienced a concussive seizure during a football match. The boy received a blow from an elbow to the head in mid-air whilst jumping to save a goal. He fell down to the ground and additionally bumped his head. Immediately, within seconds, he experienced a tonic-clonic seizure which resolved spontaneously within two minutes. The subsequent diagnostic pathway included: CT scan, neurosurgeon consultation, biochemical and haematological blood analyses, and EEG (within 48

hours); the results were normal. After detailed review of the video recording of the football match, a diagnosis of concussive seizure was made.

References

1. Tényi D, Gyimesi C, Horváth R, Kovács N, Ábrahám H, Darnai G, *et al.* Concussive convulsions: A YouTube video analysis. *Epilepsia* 2016; 57(8): 1310-6.
2. McCrory PR, Berkovic SF. Video analysis of acute motor and convulsive manifestations in sport-related concussion. *Neurology* 2000; 54: 1488-91.
3. Ellis MJ, Wennberg R. Convulsions in a 17-year-old boy after a head injury sustained while playing hockey. *CMAJ* 2016; 188(6): 443-5.



VIDEO ONLINE



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Legend for video sequence

The video presents a moment when a 16-year-old football goalkeeper receives a blow from an elbow to the head in mid-air whilst jumping to save a goal. After the injury, he falls to the ground and also bumps his head. He loses consciousness immediately and has a tonic-clonic jerk of the whole body, lasting for nearly two minutes. The convulsions resolve spontaneously. The medical team provides emergency care and takes the goalkeeper off the field.

Key words for video research on www.epilepticdisorders.com

Phenomenology: tonic-clonic seizure
Localization: generalized
Syndrome: not applicable
Aetiology: concussion