Neurocognitive and symptom predictors of recovery in high school athletes.

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Abstract

OBJECTIVES:

The purpose of this study was to identify specific symptom and neuropsychological test patterns that might serve as prognostic indicators of recovery in concussed high school football players. The recently proposed simple versus complex concussion classification was examined and specific symptom clusters were identified.

DESIGN:

Case-control study.

SETTING:

High school football.

PARTICIPANTS:

Subjects were 108 recently concussed male high school football athletes between the ages of 13 and 19 (mean, 16.01) years.

ASSESSMENT OF RISK FACTORS:

Participants were evaluated by utilizing the Immediate Postconcussion Assessment and Cognitive Testing computer-based neurocognitive test battery at before injury and within an average of 2.23 days of injury. All athletes were followed until they met criteria for clinical recovery.

MAIN OUTCOME MEASURES:

Symptom ratings and neurocognitive test performance.
RESULTS:

Both neurocognitive test results and self-reported symptom data had prognostic value in determining time to clinical recovery. Self-reported cognitive decline, Immediate Postconcussion Assessment and Cognitive Testing reaction time, and migraine headache symptoms were associated with longer time to clinical recovery. Overall, these difficulties were predictive of concussions that were retrospectively classified as complex.

CONCLUSIONS:

Specific symptom clusters and neurocognitive test results may have predictive value to classifying and managing concussions.