Forensic Implications of Traumatic Brain Injury and Violence in Athletes

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Abstract

- 2.5 million traumatic brain injuries were reported in the United States in 2010, with 30% of those injuries leading to death (CDC, 2016). Traumatic brain injury (TBI) occurs in athletes of all ages in sports yet is most prevalent in contact sports (e.g., boxing, rugby, football, soccer and ice hockey). An estimated 20% of all traumatic brain injury affecting youth occurs as a result of sports injury (Harvey, 2013).
- Despite lawmakers’ efforts to reduce the occurrence of multiple TBI occurring for youth, high school, collegiate and professional athletes involved in contact sport, we are increasingly aware of the long-term adverse effects of exposure to repeated traumatic brain injury.
- For emerging athletes, TBI is a critical issue affecting long-term athletic involvement. Pressure to minimize injuries for young athletes wanting to maximize collegiate and professional potential is reinforced by organizations and industries built upon the pressure to perform.

Forensic Implications

Legal Liability

- Forensic consequences in both return to play decision-making, and identifying legal liability is a current concern in the literature (Echemendia et al., 2016).
- TBI in football players resulted in case outcomes, which found the National Football League liable to warn their employees of potential harm from sustaining multiple brain injuries.
- Failure to warn and adequately protect employees was defined as negligence in several class action suits brought on by NFL players (Gove, 2012).

Assessment

- A limitation for forensic psychologists lies in no clinical diagnostic protocol for CTE. Despite the limitations of diagnosing CTE, the neurological implications of multiple concussions leave athletes of all ages consistently at risk.
- The inability for forensic specialists to establish a baseline to assess multiple TBI effects makes evidence-based assessment essential (Echemendia et al., 2012).
- Athletes now determine the potential for acquiring sports-related TBI, which may impair their ability to perform their sport, and reduce their long-term cognitive, motor and emotional functions.

Wrongful Death Case

- Two weeks following a football related major concussion, 25 year old Jovan Belcher, a KC Chief inside linebacker, shot and killed his girlfriend, then drove to his team’s practice field and committed suicide in front of his general manager and coach.
- Medical examiners determined Belcher suffered from CTE and Belcher’s mother filed wrongful death lawsuit against KC Chiefs for her son’s neglected brain injury.
- Allegations against NFL team: Defendant was aware of Decedent’s symptoms and signs of cognitive and neuropsychiatric impairment. Defendant disregarded evidence of impairments and fostered environment where Decedent was required to play through his injuries and become exposed to further neurological harm.*

Future Research

- A pressing research need is cross-sectional studies establishing an evidence-based relationship between sport injuries and CTE.
- Long-term pathology, such as potential aggression as a result of TBI in these athletes, needs to be more carefully investigated in the literature.
- TBI-influenced behavioral changes and aggression, both toward themselves and others, increases the incalculable damage to quality of life, and family victims as a result of neurologic complications from multiple sports sustained TBIs (Stein, 2014).

Current Research

Long Term Effects

- Evidence-based research is emerging demonstrating long-term effects of TBI and compounded neurological effects upon athletes with multiple TBI over life span in sports (Coughlin et al., 2015).

CTE

- Chronic traumatic encephalopathy (CTE) is the result of repeated TBIs in which brain tissue is severely diminished with diffuse deterioration in multiple brain regions (Mitsis et al., 2014).
- CTE is often associated with comorbid substance abuse and suicide (Stein, Alvarez, and McKee, 2014).
- CTE pathology frequently linked to early dementia, mood deregulation, and aggression (Mitsis et al., 2014).

Behavioral Change

- CTE can result in aggression, mood deregulation, and poor judgment (Stein, Alvarez, and McKee, 2014).
- Failure to warn and adequately protect employees was defined as negligence in several class action suits brought on by NFL players (Gove, 2012).

Conclusion

- Finally, connecting neurological assessment, case variables, and upholding legal standards makes the issue of sports-related TBI in athletes and subsequent violent behavior of concern for forensic psychologists. Evidence-based research provides support for the cognitive and emotional deterioration in CTE, however determining a causal relationship is not yet backed up in the literature, nor is there a reliable clinical diagnostic protocol for CTE.
- Reliable evidence of potential violent behavior as a result of prolonged TBI in athletes is another gap in the literature. In contrast, there are significant findings to connect TBI with heightened aggression in veteran and incarcerated populations (Hardcastle, 2015). Liability for athletes who demonstrate increased violence and have suffered single or multiple sports-related TBI is a complicated forensic issue facing athletes, neuropsychologists and researchers ahead.