

Sport-Related Headache



Sylvia Lucas, MD, PhD, FAHS^{a,*}, Heidi K. Blume, MD, MPH^b

KEYWORDS

- Concussion • Postconcussive syndrome • Posttraumatic headache
- Sports concussion • Migraine • Tension-type headache

KEY POINTS

- Headache is the primary symptom reported after concussion.
- Cumulative incidence and prevalence of posttraumatic headache is higher in those exposed to a mild TBI than to a moderate to severe TBI.
- Migraine or probable migraine is the most common headache phenotype after any severity TBI using primary headache disorder criteria.
- In pediatric studies, female sex, higher number of postconcussive symptoms, prior concussions, adolescent age, and headache after injury may be associated with increased risk of headache and prolonged postconcussive syndrome.
- Management of PTH is empiric with no evidence-based treatment protocols. Expert opinion suggests treating PTH according to its clinical characteristics.

INTRODUCTION

Headache occurring in the setting of sports or other recreational activities may be a primary or secondary headache. Primary headache disorders, such as migraine, are clinical syndromes that have no structural, infectious, or metabolic cause, and thought to have an underlying genetic basis with various individual internal or external triggers. Secondary headaches, such as posttraumatic headache (PTH), have a temporal relationship between a causative factor, such as a traumatic brain injury (TBI), and onset of the headache. The most common headache encountered in pediatric sports is migraine triggered by dehydration, fatigue, stress, or other factors encountered by the players.¹ Exercise can also be characterized as a “trigger” for adults, although it is difficult to assign any particular physiologic stressor, such as dehydration, as a unique causative factor. This review of sport-related headache focuses on secondary headache, particularly postconcussive headache or PTH, because of the increasing

^a Department of Neurological Surgery, University of Washington Medical Center, Seattle Sports Concussion Program, Harborview Medical Center, Box 359924, 325 Ninth Avenue, Seattle, WA 98104, USA; ^b Division of Child Neurology, Seattle Children’s Hospital and Research Institute, University of Washington, 4800 Sand Point Way, MS: M/S MB 7.420, Seattle, WA 98105, USA
* Corresponding author.
E-mail address: lucass@uw.edu

attention that has been directed toward TBI in military, professional, and school-related organizations during the last several years. Indeed, every state in the United States now has legislation passed requiring evaluation of possible concussion before an athlete can re-enter play, so knowledge of concussion and postconcussive symptoms is particularly important.²

Although headache is the primary symptom reported after concussion,³ the inherent difficulty in estimating headache incidence is two-fold. The first is that this symptom may not be recognized as a unique symptom within a constellation of symptoms after injury. It may be difficult to isolate headache symptoms from others following a concussion, such as dizziness, imbalance, photophobia, and nausea. Headache may be a part of “feeling bad” or “hitting my head,” without recognition of its features. Many who experience headache after brain injury only seek attention if the symptoms are prolonged or interfere with quality of life. The second difficulty with estimating headache incidence is underreporting concussion, the presumptive cause. Athletes may underreport or may not recognize the symptoms of concussion and the American Medical Society for Sports reports that 50% of concussions may go unreported.⁴ Personnel associated with sports or responsible for player safety may also have a significant role in reporting concussion. If physicians are observing sports events, a higher rate of concussion is reported.⁵

Methods of obtaining data on concussion vary across ascertainment settings, such as field sidelines, outpatient clinics, or population-based surveillance studies. In surveillance studies or large population-based studies, a structured clinical interview provides the most comprehensive clinical data but is not practical. Surveys provide most data on large groups of athletes with and without physician observation during activity. However, a significant number of concussions are not reported by athletes, trainers, or coaches, and surveillance studies may be based on International Classification of Diseases codes, which may not be accurate. One study in Minnesota found that mild TBI (mTBI) codes in an emergency department (ED) setting were 98% specific and 46% sensitive for mTBI.⁶

Given these difficulties in obtaining data on concussions, the estimate of 1.6 to 3.8 million sports-related concussions per year in the United States seems likely⁷ and in range of 3.2 million TBIs reported to the Centers for Disease Control and Prevention by EDs, hospitals, and other reporting agencies.⁸

Although the exact numbers of concussions are unknown, the numbers of children and adults playing organized or unorganized sports is huge. The National Council on Youth Sports estimates at least 44 million boys and girls participate in sports in this country and more than 170 million adults. There are no large prospective studies on incidence of sports-related concussion, and the risk pool may vary with the sport played and the probability of contact particularly with high speed or high impact contact.

EPIDEMIOLOGY OF POSTTRAUMATIC HEADACHE

Many studies of symptoms following brain injury have been undertaken. However, variability in case ascertainment, TBI subgroup severity, subject selection and inclusion criteria bias, and variable follow-up times make the comparison and interpretation of studies difficult. Lack of objective findings, limitations in self-reporting of symptoms, secondary gain issues, and litigation concerns often discount patient reports. Therefore, despite the prominence of headache symptoms after mTBI, some biases and design variables may underlie the historically wide range of PTH prevalence of 30% to 90%.^{3,9,10}

Download English Version:

<https://daneshyari.com/en/article/5631931>

Download Persian Version:

<https://daneshyari.com/article/5631931>

[Daneshyari.com](https://daneshyari.com)