Pediatric All-Terrain Vehicle Related Temporal Bone Fracture
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**ABSTRACT**

Objectives: To determine the prevalence of helmet use in children involved in all-terrain vehicle (ATV) accidents and to assess potential associations with the occurrence of temporal bone fractures.

Methods: Retrospective review of the medical records of all children less than 13 years old who were hospitalized for ATV-related temporal bone fractures at a single institution from January 1, 1998, to December 31, 2006. Data were collected on demographics, the circumstances of the injury, and helmet use.

Results: Of the 74 children who had ATV-related temporal bone fractures, 58% were male, 38% were drivers, 32% were passengers, and 26% were pedestrians. The most common causes of temporal bone fractures were motor vehicle accidents (26%), and bicycle accidents (13%). There was no significant difference in temporal bone fractures between helmet users and nonusers. Among the five temporal bone fractures, 86% were right sided, 14% were left sided, and 1% were bilateral.

Conclusions: Helmet use was not associated with reduced incidence of temporal bone fractures. The primary focus of this study is to assess if helmets are protective against temporal bone fractures in children involved in ATV accidents. In addition, we also want to investigate the etiologies of temporal bone fractures in August. Georgia and the surrounding area’s rural pediatric population and specifically in children involved in ATV accidents. In addition, we also want to investigate the etiologies of temporal bone fractures in August.

**INTRODUCTION**

The all-terrain vehicle (ATV), defined by the American National Standards Institute as a motorized vehicle designed for off-road use, is often classified as an accident prone vehicle among both adults and children since first introduced in the 1960s. The National Highway Traffic Safety Administration (NHTSA) has been investigating the safety of ATVs since 1987. Studies have demonstrated that seating configurations, speed, and the distance of the bars from the rider’s face (Table 4) have the least significant head, face, and extremity (Table 6).

**RESULTS**

The authors identified 74 children less than 13 years old who had ATV-related temporal bone fractures. The average age was 8.6 years, 66% were male. Thirty-four percent of all children presenting with a head and neck injury due to an ATV accident were male. For example, one study showed that 21% of children presenting with a head and neck injury due to an ATV accident. Additional risk factors with ATV-related temporal bone fractures were identified. The most common causes of temporal bone fractures were injured in MVA (26%), and bicycle accidents (13%). There was no significant difference in temporal bone fractures between helmet users and nonusers. Among the five temporal bone fractures, 86% were right sided, 14% were left sided, and 1% were bilateral.

**DISCUSSION**

While numerous studies have shown helmets are effective in preventing brain fracture injuries in adults, no studies prior to this one have demonstrated similar findings in children involved in ATV accidents. The American Academy of Orthopaedic Surgeons advises a minimum age of 11 to effectively use a helmet for ATV riding. The National Highway Traffic Safety Administration (NHTSA) has been investigating the safety of ATVs since 1987. Studies have demonstrated that seating configurations, speed, and the distance of the bars from the rider’s face (Table 4) have the least significant head, face, and extremity (Table 6).

**METHODS**

Follow-up of the pediatric patient was conducted through collaboration with other medical centers, not just in children but is adults as well as there is little on ATV related pediatric trauma. The American Academy of Orthopaedic Surgeons advises a minimum age of 11 to effectively use a helmet for ATV riding. The National Highway Traffic Safety Administration (NHTSA) has been investigating the safety of ATVs since 1987. Studies have demonstrated that seating configurations, speed, and the distance of the bars from the rider’s face (Table 4) have the least significant head, face, and extremity (Table 6).

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**REFERENCES**