Profile of childhood head injuries treated at the trauma unit of the Red Cross War Memorial Children’s Hospital: 1991–2001

Author
Lalloo, R, van As, A

Published
2004

Journal Title
South African Medical Journal

Downloaded from
http://hdl.handle.net/10072/32159

Link to published version
ORIGINAL ARTICLES

SHORT REPORT

Profile of children with head injuries treated at the trauma unit of Red Cross War Memorial Children’s Hospital, 1991 - 2001

R Laloo, A B van As

Objective. To describe the profile of childhood head injury patients treated in a trauma unit.

Design. A retrospective record-based study.

Setting. The trauma unit of the Red Cross War Memorial Children’s Hospital.


Results. Of the almost 94 000 records, more than one-third were children presenting with head injuries. Fifty-nine per cent were boys, with more than half the sample under 5 years of age. The majority of children presented with superficial lacerations and abrasions, mostly affecting the scalp and skull. Injuries were mainly caused by falls from a variety of heights, and traffic-related injuries. Almost two-thirds of traffic-related injuries involved children as pedestrians being struck by a motor vehicle. More than 60% of injuries occurred in or around the child’s own home.

Conclusions. Head injuries in children are a significant cause of morbidity. Prevention, especially in the home and on the streets, needs urgent attention.

Table I shows that head injuries most often involved the scalp (25%), skull (20%) and parts of the face other than the facial bones (18%). The brain was injured in 9% of children. Table I also shows that superficial lacerations (23%) were the most common injury sustained, followed by abrasions (20%) and closed tissue-type injuries (20%). Closed fractures were found in 6% of children.

Table II shows that falls were the most common cause of the head injuries (41%), followed by traffic-related injuries (19%) and being struck by or against an object (13%). Of the traffic-related injuries, 65% involved pedestrians struck by a motor vehicle and 13% involved cycles (bicycles and motorcycles). Sharp instruments and firearms were implicated in 2.7% and 0.2% of head injuries respectively. The child’s own home was the most common location for injuries (61%), with 71% of these occurring inside the home. One-fifth of head injuries occurred on road or pavements.

On admission 1.8% of the children were unconscious and 1.1% in shock. In terms of the abbreviated injury score (AIS), 81.9% were minor injuries, 16.3% moderate, 1.6% severe and 0.2% mortal. Only 3.3% needed simple and 0.8% complex resuscitation. Child abuse was the cause in 0.8% of the head injuries, while it was suspected in 2.8%. The injuries were self-inflicted in 6.3% of cases.

Few children needed a general anaesthetic (3.6%) and 14% a local anaesthetic. Most patients needed advice/medication (41%) or a dressing/simple plaster of Paris (26%). Almost three-quarters of the children were then discharged home or to the local general practitioner, 13% to outpatients and 10% to a community health centre.

There was no difference in the types of head injuries sustained by boys and girls. Older children (5 - 12 years of age) were more likely to experience closed fractures and burns than younger children. Of the head injuries caused by falls off the bed, 9.8% caused concussion and 6.3% a closed fracture. Of the children injured as pedestrians, 6.6% suffered closed fractures and 8.4% concussion.

Discussion

This short report highlights the public health importance of head injuries in young children. Of all injury cases presenting at the trauma unit more than one-third involved the head. There is an urgent need to reduce the occurrence of head injuries through improved prevention strategies. Most childhood injuries occur in the child’s own home and in pedestrian traffic-related accidents. To make any progress towards reducing the incidence of childhood injuries, prevention strategies in the home and on the roads must be urgently implemented.

A recent systematic review on the effectiveness of reducing physical hazards in the home concluded that there was insufficient evidence to determine the effectiveness of these
strategies. Home environment strategies found to be effective are mainly related to smoke alarms and packaging of drugs and poisons. Traffic-related strategies have been found to be effective in reducing pedestrian injuries. These include reduced speed limits in residential suburbs, roundabouts, sidewalks, pedestrian refuge islands, skills training, and legislation such as compulsory seat belt use. The effectiveness of many of these strategies has been evaluated in high-income countries and their application in low- and middle-income countries needs to be measured.

Head injuries are a significant contributor to childhood mortality and morbidity. It is essential that this not be a forgotten epidemic.

References


Accepted 13 April 2004.