

mononucleosis was not suspected for two weeks, during which the patient was given antimicrobial treatment for sepsis. The phenobarbital toxicity might be due to a decrease in the detoxification of the drug by a damaged liver, and this excessive sedation could cause an aspiration pneumonia.

Just how the patient acquired the EBV infection is not known.

Unexplained febrile illness lasting for several days, especially in the aged, is a condition of major concern to both the patient and the physician. This case, however, illustrates the importance of considering infectious mononucleosis in the differential diagnosis of fever of undetermined origin. By determining the Epstein-Barr virus antibody profile, the presumptive diagnosis of current primary EB virus infection can often be made at the first patient visit or at the time of hospital admission.

Infectious mononucleosis need not be an exclusive disease of young adults and teenagers. In a recent EB virus antibody survey of pregnant women living in the Sacramento area, it was found that 3 of 95 (3 percent) subjects 36 to 45 years old had no detectable level of EB virus antibody.⁴ Hence adults, presumably some elderly, are still susceptible to primary EB virus infection.

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Accidental Injuries to Children and Youths in Rural Florida

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Accidents are a major health problem in the United States. They cause more than one half of all deaths in persons from ages 1 to 24 years.¹ Each year in the United States 24 million children and youths under 17 years of age are examined and treated for injuries, and 15.5 million days are lost from school, while countless other children are temporarily and permanently disabled as a result of accidents.^{2,3} The three factors influencing the incidence of trauma are the victim, the agent, and the surrounding environment.⁴ Alterations in the environment and agent can effectively reduce the incidence of trauma, but they are often extremely dif-

ficult to affect at a local level (eg, mandatory seat belt legislation, the use of passive seat belt restraints, changes in clothing design to retard burning, or alteration of automobile crashworthiness).

During several years of experience in providing care for children in the rural health clinics established by the Department of Community Health and Family Medicine at the University of Florida College of Medicine, it became apparent that approximately 20 percent of patient visits were related to accidental injuries. Prior to the development of a health promotion program aimed at preventing accidents in children and youths, a four-month survey was performed in three clinics in rural Florida in order to ascertain the nature of and those at greatest risk for accidents. Over a four-month period in 1980 the accidents occurring to children and youths were prospectively observed. The study included the collection of demographic data, the types of injuries that occurred, and the events leading to the occurrence of the accidents.

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Methods

The survey was conducted on 258 children and youths up to the age of 21 years who had appeared at the three clinics during the first four months of 1980. Parents were asked to provide the necessary biographical data as well as to describe the events that immediately preceded the occurrence of the accidents. In addition, the records of 51 of the patients who had recurrent accidents were similarly reviewed. Recurrent accidents were defined as three or more such incidents occurring within a five-year period. One year following the study, a questionnaire was sent to 35 patients who were randomly selected from the 258 patients previously described.

Results

Nearly two thirds (65 percent) of the children treated for accidents during the four-month study were male and 91.7 percent were white. Very few accidents occurred in young children, with less than 20 percent occurring in children under five years of age. The highest percentage of injuries (40 percent) occurred at between 10 and 15 years of age, while the two remaining age categories accounted for approximately 20 percent of the injuries seen.

The types of injuries noted in Table 1 included lacerations, contusions, sprains, head trauma, fractures, abrasions, and dislocations. The miscellaneous group included hematomas, punctures, burns, foreign bodies, whiplash injuries, and gunshot wounds. The largest injury group was lacerations, which accounted for 77 (29.8 percent) of the injuries. The next largest group was the miscellaneous injuries group, accounting for 43 (16.7 percent) of the injuries, followed by contusions, 40 (15.5 percent), sprains, 31 (12 percent), and fractures, abrasions, and dislocations, accounting for less than 10 percent of the injuries.

The categories of activities engaged in prior to injury included work, school, athletics of several categories, play, automotive, and other types of activities; there were no unknown antecedent activities. The largest number of accidents occurred while children and youths were playing (116 accident-related activities). The next largest group included

Table 1. Types of Injuries Occurring in Children and Youth (n = 258)

Injury	No. (%)
Laceration	77 (29.8)
Miscellaneous	43 (16.7)
Contusion	40 (15.5)
Sprain	31 (12.0)
Head trauma	25 (9.7)
Fracture	22 (8.5)
Abrasion	18 (6.9)
Dislocation	2 (0.8)

children who participated in athletic events, which accounted for 43 of the antecedent activities. Ten of these injuries occurred in competitive sports, while 16 occurred in physical education class, and 7 occurred in unsupervised athletic activities. Thirty-four injury-related activities took place at school, most often in the classroom or going to and from the classroom. Twenty-three of the injury-related activities occurred at work, usually in the older age group of children.

Two of the injuries were fatal: a 2-year-old child drowned in her grandparents' private swimming pool, and a 16-year-old boy was crushed by a truck driven by a friend who was playing the game "chicken." The brakes on the truck failed, and the victim died shortly after arriving at the hospital.

As previously mentioned, selective intervention aimed at preventing potential injuries in high-risk individuals is more efficacious than generalized attempts at intervention. To identify a population that is most at risk for injuries, a survey of those children noted in the initial survey as having recurrent injuries was made. Recurrent injuries were defined as three or more such incidents occurring to a child within a five-year period. Fifty-one such patients were identified from the original study, and their medical records were reviewed retrospectively. These data were analyzed as in the initial study.

The results of this study indicate that over a four-month period 230 children and youths sustained 258 injuries requiring care at the three rural

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clinics in north central Florida. During this same period a total of 2,318 patient visits were made to these clinics from this age group. Thus, 11 percent of the visits to these rural clinics were for the care of injuries sustained as a result of accidents. This figure contrasts with the reported percentage of trauma-related visits of 17.3 percent noted in a rural community in the state of Washington, where patients of all ages were included in the study.⁵ The low figure in the Florida study may reflect the unusually cool weather at the time of year the study was performed. The study period in the Washington study was from August 15 to November 15, 1978, when more outdoor activities (eg, football) that could increase the incidence of injuries at that time of year might be anticipated. However, the range of figures in both studies of 11 percent to 17 percent is probably typical of the injuries seen in rural practices, especially in those communities in which the clinic serves as the only source of medical as well as emergency care for the community.

The majority of injuries (60 percent) occurred in children between the ages of 10 and 21 years; this is similar to the findings of the Washington report, in which 64 percent of the injuries occurred in teenagers and young adults.⁵ It is widely known that accidents constitute the major cause of death for this age group, with over 24,000 people between the ages of 15 and 24 years dying each year as a result of injuries.

There were only 19 responses to the questionnaires sent to 35 families one year after the initial study was performed. Four of these (21 percent) reported that the patients had subsequent injuries, with only two of them being serious enough to cause absence from school. None of the responses indicated that any of the previously injured children were disabled a year later. The most telling finding in this follow-up survey was the belief on the part of 84 percent of the families questioned that their child's injury was preventable.

Comment

The present study selected the children who had three or more injuries within a five-year time period. The majority of these injuries resulted

from participation in competitive athletic activities. Accordingly, a program aimed at identifying young athletes prone to recurrent injuries and intervention using physical conditioning programs as well as psychosocial intervention (eg, counseling) for the accident-prone athletes might be the most efficacious way for preventing accidents for this particular high-risk group.⁶ Additional reductions in injury frequency may result if the athlete's environment is altered by the use of optimal athletic equipment and student trainers educated at special workshops.⁷ A modality of injury reduction currently being pursued by the University of Florida rural health program is the use of a health risk analysis instrument for teenagers, which is followed by an onsite program of increasing the teenagers' awareness and changing their behavior. At the present time the authors are participating in a study to determine the effectiveness of health education programs that advocate good health habits (ie, the use of seat belts, driving within the speed limit, and not driving under the influence of alcohol or drugs) in an approach that is neither punitive nor condescending.

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