Be Alert to Signs of Physical Abuse in Children

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MIAMI BEACH — An unbelievable or inconsistent explanation for bruises, fractures, head trauma, or burns in a child is among the red flags that raise suspicion of physical abuse, said Dr. Joseph A. Zenel.

Bruises left by abuse can appear on the soft tissue of the face, chest, abdomen, buttocks, ears, neck, genital areas, and inner thighs. Infants not old enough to walk with multiple, uniform soft tissue bruises in particular might be victims of abuse (Arch. Dis. Child. 2005;90:182-9).

Another tip is to look for multiple bruises that appear on more than one plane, said Dr. Zenel, who is on the pediatrics faculty at Oregon Health and Science University, Portland. The majority of accidental bruises appear over bony prominences, he added.

A trauma history that changes over time or is inconsistent, as well as evidence of multiple injuries at various healing stages, are other red flags for abuse, Dr. Zenel said. Estimation of the timing of a bruise based on appearance, especially within the first 24 hours of injury, can be highly inaccurate (Pediatrics 2003;112:804-7).

Clinical suspicion, physical examination, and a variety of imaging modalities contribute to the diagnosis of child abuse. A CT or MRI of the head may be indicated because about 50% of abuse is associated with head trauma, Dr. Zenel said. A depressed skull fracture, a diastatic fracture greater than 3 mm wide, a nonparietal fracture, and any fracture associated with intracranial hemorrhage raise the suspicion of abuse.

In a study of 152 children less than 2 years of age with traumatic brain injuries, 80 (53%) were confirmed abuse cases (Pediatrics 2004;114:633-9). Those with inflicted injury were more likely to present with no external signs of trauma, subdural hematoma, cerebral edema, seizures, and rib, long bone, or metaphyseal fractures than those with accidental injuries.

"Suspect inflicted head trauma in any acute neurologic deterioration in an otherwise healthy infant or child," Dr. Zenel said at the annual Masters of Pediatrics conference sponsored by the University of Miami.

In a study of 81 adults who admitted abuse, 56% were the fathers, 16% were the mothers' boyfriends, 15% were the mothers, 5% were female babysitters, and the remainder were "other" perpetrators (Arch. Pediatr. Adolesc. Med. 2004;158:454-8). The perpetrator may be a person you do not suspect, he said.

A skeletal survey and retinal examination should be considered part of the physical examination depending on the pattern or number of injuries. In addition, a bone scan is warranted in some cases, Dr. Zenel said. Skeletal trauma is the second most common sign of physical child abuse, he said, particularly in infants younger than 18 months of age.

Researchers found that isolated femoral fractures were rarely associated with abuse, accounting for 9% of fractures among 139 children under age 4 years (J. Pediatr. Orthop. 2000:20:475-81). Patient age was the most significant predictor associated with abuse in this report: 10 (42%) of 24 nonwalking-age children were abused versus 3 (3%) of 115 walking-age children.

Evaluation of the child by social services should include assessment of other children in the household, Dr. Zenel said. Physicians have an obligation to report suspected child abuse.

Recommended laboratory tests in a suspected abuse case include complete blood count, prothrombin time/partial prothrombin time assay, liver function test, and amylase assay, Dr. Zenel said.

Inflicted burns associated with child abuse are typically a result of discipline or punishment, he said. Clinical presentation is typically deeper burns in a more symmetrical pattern versus accidental burns. A stocking or glove distribution is another sign of a potentially inflicted burn.

While not physical abuse, neglect is the leading form of maltreatment of children, Dr. Zenel said. Neglect accounts for more than half of reports made to child welfare authorities. Delays in health care, failure to thrive, hunger, apathy, inadequate hygiene, homelessness, inadequate clothing, and unmet educational needs are among the leading signs of neglect.

The American Academy of Pediatrics provides additional information on child abuse and neglect for providers and parents. Visit www.aap.org/healthtopics/childabuse.cfm. ■