Call for Abstracts

The American Pediatric Society (APS) and the Society for Pediatric Research (SPR) announce that the deadline for abstracts for their 1995 annual meeting is January 3, 1995. The 1995 annual meeting will be held May 8 through 11, 1995, at the San Diego (Calif) Convention Center. For further information, please contact APS/SPR Association Headquarters, 141 NW Point Blvd, PO Box 675, Elk Grove Village, IL 60009-0675 (telephone, [708] 427-0205; fax, [708] 427-1305).

Twins and Child Abuse

An increased incidence of child abuse and neglect has been documented surrounding twin births. Levy[1] wrote about an increased rate of infant mortality and failure to thrive in twins born into the modern Navajo culture. Robarge et al,[2] in a singleton-birth matched control study, showed an increased incidence of abuse in families after the birth of twins, both in siblings of the twins and in the twins. In a related study, Groothuis et al[3] documented that twin births are associated with a high incidence of perinatal complications that also predispose to abuse. When regression analysis was used to control for perinatal complications, twin status itself was found to be a risk factor for subsequent abuse, presumably owing to the many family stresses imposed by twin births. Nelson and Martin[4] found an increased incidence of abuse among twin pairs. Both twins of a pair were abused 60% of the time, suggesting that if one twin is abused, the other should be evaluated. Tanimura et al[5] also found an increased incidence of child abuse and neglect in twins in Japan. In their study, however, one twin was more often exclusively abused in apparent relationship to a problem exclusive to that twin, most often a medical problem. Both twins were abused less often and when they were, it was apparently related to socioeconomic problems or a personality disorder in the abuser.

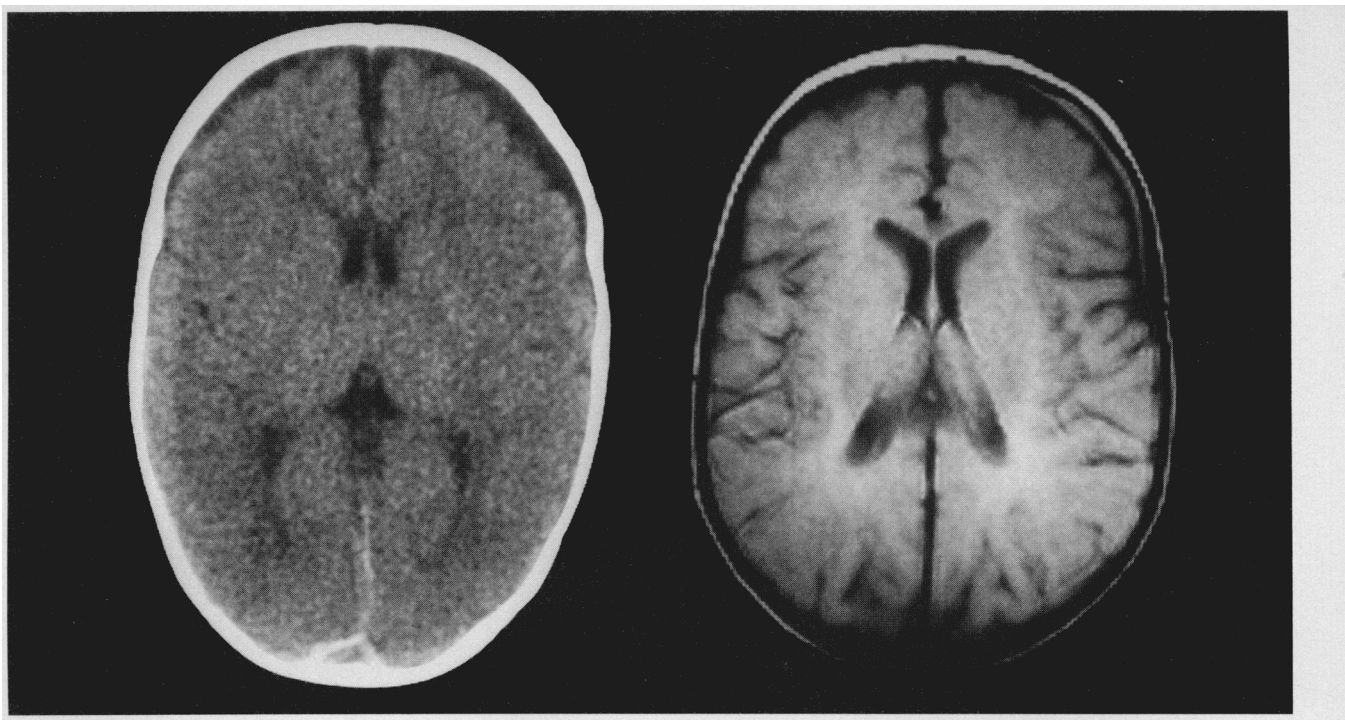
When concerns of child abuse and neglect exist surrounding one child in a twin pair, to what extent should the other twin be investigated? The case presented herein illustrates the issues that may arise in these difficult situations, and provides a focal point for discussion regarding the appropriate workup for a child whose twin has been found to be physically abused. Most child protection agencies evaluate the welfare of siblings of abused children. How far should the medical workup go in twin situations?

Patient Report. A.B., a 4½-month-old female twin, was examined in the emergency department, at her parents' request, with fever, lethargy, unusual eye movements, and an inability to hold her head up. Results of the physical examination showed an obtunded infant with a bulging anterior fontanelle and retinal hemorrhages. Her weight was down 0.5 kg from a previous admission approximately 3 weeks prior to this admission (see below). A computed tomographic (CT) scan of the head showed acute and chronic subdural hematomas. A diagnosis of shaken baby syndrome was made. Magnetic resonance imaging (MRI) performed the next day confirmed the presence of intracranial blood of two different signal intensities implying two separate bleeding events occurring at different times. A skeletal roentgenographic survey was negative for fractures.

The medical history revealed that A.B. and her female twin, B.B., were born 6 weeks prematurely and delivered by cesarean section. A.B. was the first-born twin. Both twins remained in the hospital after their birth, A.B. for 3 weeks and B.B. for 2 weeks. A.B. had been hospitalized 3 weeks prior to the current admission because of lethargy, fever, vomiting, and diarrhea. A septic workup was performed that included a lumbar puncture with cerebrospinal fluid containing 2600×10^6/L red blood cells. The lumbar puncture was presumed traumatic and the CT scan was not performed during that admission. The final diagnosis had been viral gastroenteritis. Subsequently, A.B. had experienced some feeding intolerance and several formula changes had been made.

The social history indicated that A.B.'s family lived in a small apartment on a local military base. The family consisted of the father who was 22 years old, the mother who was 24 years old, their 4-year-old daughter, and the twins. The father worked as a US Air Force mechanic and the mother worked in a pizza restaurant. The parents would vary their work schedules so that one would be available to take care of the three children at all times. Extended family was available in the area for support.

B.B. was seen the day after A.B.'s admission to the hospital. The baby appeared entirely normal on physical examination, including a retinal examination. Because of the history of shaken baby syndrome in the other twin, a CT scan was performed. This scan showed a small amount of extra-axial fluid in the frontal regions bilaterally (**Figure**, left). This was believed to be consistent with benign subdural effusion of infancy, though nonaccidental trauma could not be ruled out. At the insistence of the military base personnel, MRI was performed, which showed definite evidence of intracranial blood of two different signal intensities implying two separate bleeding events occurring at different times (Figure, right). A skeletal roentgenographic survey showed



Left, Computed tomographic scan of the head showing a small amount of fluid in the frontal regions bilaterally with attenuation similar to that of cerebrospinal fluid. Right, Magnetic resonance imaging of the head showing two different signal intensities within the frontal fluid, particularly on the left side. Subacute blood is also noted over the right tentorium and in the right subtemporal space.

no abnormalities. An indirect ophthalmologic examination confirmed the absence of retinal hemorrhages.

B.B. and her 4-year-old sister were taken into state custody until the situation surrounding the injuries to the twins could be clarified. Results of the physical examination of the 4-year-old showed no evidence of trauma. No roentgenographs were obtained.

Comment. The finding of intracranial blood in B.B. was unexpected in this asymptomatic baby with normal physical examination results. This case raises several questions about the routine examination of twins (and siblings) of abused children. Should intracranial radiologic scanning of asymptomatic children who fall into the appropriate age group for shaken baby syndrome be performed routinely? The American Academy of Pediatrics considers MRI an adjunct to computed tomography for the evaluation of brain injuries in infants when they are acutely ill.[6] The Academy does not comment on the radiologic evaluation of the apparently well siblings of the injured infants. Should MRI be the initial screening procedure in asymptomatic cases, or should a CT scan be used to screen the need for MRI? The interpretation of minimal, bilateral, frontal, extra-axial fluid in young babies is difficult and variable among radiologists. The intracranial blood found in B.B. could easily, and perhaps justifiably, have been missed based on the CT results and their interpretation. Should those infants less than 1 year of age have routine skeletal roentgenographic surveys performed? If MRI is the sole intracranial radiologic scanning mode, skull roentgenographic films become particularly important because of the insensitivity of MRI to detect fractures. The increased incidence of child abuse and neglect in twins would make a routine skeletal survey in those younger than 1 year seem advisable, particularly if family stresses can be documented or if the twin known to be abused has no identifiable problems over and above those of the other twin. Our experience with this set of twins would support an aggressive investigatory process, including MRI as the initial radiologic mode of study for the head in asymptomatic babies. Clearly, more cases are needed to clarify this issue.

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Otitis Externa Posing as Mastoiditis

Postauricular cellulitis is commonly associated with mastoiditis and necrotizing otitis externa (NOE). This finding, however, is rarely thought of by pediatricians in conjunction with otitis externa (OE). We have treated several patients with OE who presented with