



Sample Reviews

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Physical Abuse

Prevalence of cervical spine injury in infants with head trauma. Joel S Katz, Chima O Oluigbo, C Corbett Wilkinson, Sean McNatt, Michael H Handler. *J Neurosurg Pediatrics* 2010;5:470-473. (from Aurora, CO)

Review from Autumn 2010 issue

The authors reviewed the Children's Hospital trauma database in Colorado from 1993 to 2007, searching for infants less than one year old with head trauma. They identified 905 patients with a mean age of 4.3 months. Those who were the victims of motor vehicle events or falls of more than ten feet were excluded.

Fifty-four percent of the study sample had been injured in falls, 39% were the victims of child abuse, 2.5% were struck by an object, and 2.8% had other causes of injury. Thirty percent had dedicated spine X-rays, 49% had skeletal surveys, 3% had spinal CTs and 1% had spinal MRIs. In all, 62% had the spine evaluated by some form of imaging; the diagnosis was cleared clinically in the rest.

Only two children had recognized cervical spinal injury. One, a six-month-old infant with a pneumomediastinum extending into the neck, had a small ventral epidural hemorrhage at autopsy. A two-month-old had a unilateral laminar fracture of C-4. Neither child had symptomatic cervical injury or required intervention for the spinal injury. Both children had been abused.

The prevalence of cervical spine injury was 0.2% in the entire series, 0.5% among abused infants, and 3% among the 33 fatalities. On follow-up, no additional spinal injuries were found.

Reviewed by Kenneth Feldman, M.D.

Reviewer's Note:

Although defense witnesses continue to assert that abusive head injury from whiplash events MUST also cause cervical injury, this is an additional series that belies this assertion. Not only is clinically apparent cervical injury rare in abuse, but the authors did not see it in the context of any other form of head trauma in infants. No falls less than ten feet caused cervical injury. Shorter falls have been reported to cause cervical cord injury¹ but it is unclear how carefully abuse was excluded. In their review of spinal injury in abuse, Kemp et al.

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also noted the rarity of documented cervical spinal injuries and the high percentage of abuse among those children. Seventy-seven percent had multiple fractures and 50% had abusive head injuries. In my clinical series of cervical cord injuries, I estimated that 1% of the children with abusive head injury I have seen sustained clinical cervical cord injury.

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This series included few cases evaluated with the more detailed imaging techniques of CT or MRI scans. As such, it probably underestimates the rate of cervical injuries that are not apparent clinically. Brennan⁴ also observed that autopsy evidence of cervical injury in abused, head-injured infants is much more common (71%) than is clinically apparent.

It would behoove us to look more closely for clinical evidence of cervical injury and to use the most specific imaging. When possible, we should use CT for bony injury and MRI for cord and soft tissue injury.

References:

1. Chen LS, Blau ME. Acute central cervical cord syndrome caused by minor trauma. J Pediatr 1986;108:96-97.
2. Kemp AM, Joshi AH, Mann M et al. What are the clinical and radiological characteristics of spinal injuries from physical abuse: A systematic review. Arch Dis Child 2010;95:355-360.
3. Feldman KW et al. Cervical spinal cord injury in abused children. Ped Emerg Care 2008;24:222-227.
4. Brennan LK, Rubin D, Christian CW et al. Neck injuries in young pediatric homicide victims. J Neurosurg Pediatr 2009;3:232-239.

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Neglect

Childhood obesity and medical neglect. Todd Varness, David B Allen, Aaron L Carrel, Norman Fost. Pediatrics 2009;123:399-406. (from Madison, WI)

Review from Summer 2009 issue

In cases of obesity, does noncompliance with interventions constitute reportable child neglect and consideration of coercive state intervention? The authors argue that some cases of childhood obesity, primarily those with comorbid conditions, do constitute medical neglect. By

coercive state intervention they are referring, ultimately, to removal from the home.

The authors discuss three criteria that may warrant a charge of medical neglect: 1) a high likelihood that serious imminent harm will occur; 2) a reasonable likelihood that coercive state intervention will result in effective treatment; 3) the absence of alternative options for addressing the problem. Removal from the home would require meeting all three criteria. Before declaring an absence of alternative options, the authors suggest pursuing nutrition, exercise, and behavior interventions and referring families to specialists in weight management. The state would be involved in mandating these interventions.

Regarding effective treatment, the authors argue that lifestyle interventions are the most likely to be acceptable as a mandated intervention. Instituting lifestyle interventions in the right setting with appropriate goals can have significant benefit for a child with comorbid conditions. An appropriate goal would not be resolution of obesity but alleviation of the comorbid condition(s). The right setting would likely involve initial hospitalization to address the comorbid condition(s) and the initiation of lifestyle interventions. This would be followed by placement in a group home or specialized foster home.

In terms of risk of harm, the authors point out that, although childhood obesity carries an increased risk for adult disease, that alone does not constitute serious imminent harm. No subcategory of obesity – being overweight, obese, or severely obese — automatically predicts serious imminent harm. The presence of comorbid conditions, however, does provide a means for assessing harm.

Four categories of childhood obesity are described: 1) obese children who have no comorbid conditions; 2) obese children who have comorbid conditions that predict serious harm but are reversible in adulthood; 3) obese children who have comorbid conditions that predict serious harm and are not reversible in adulthood; 4) obese children who have comorbid conditions that constitute serious imminent harm in childhood. The authors argue that, if alternative options have been exhausted, charges of medical neglect are justified in Category 4. They probably would be applicable in cases falling into Category 3 also but they would not be applicable in Categories 1 or 2.

The authors remind us that the majority of parents care deeply about their children. They say that their purpose in proposing these guidelines is not to make moral judgments regarding parents but to protect children from serious harm.

Reviewed by Timothy J Kutz, M.D.

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Munchausen Syndrome by Proxy

Recurrent caustic esophagitis: A clinical form of Munchausen syndrome by proxy.

Benedicte Clin, Ophelie Ferrant, Claire Dupont, Frederique Papin. Child Abuse Negl 2009;33:293-295. (from Caen, France)

Review from Autumn 2009 issue

This is a case report of a nine-month-old infant brought for care for sudden onset of inflammatory oral and pharyngeal lesions associated with vomiting 20 minutes after a meal of baby food. Physical exam revealed significant edema of the inferior lip, palate, and tongue. The tongue was black and there was drooling and salivation with dysphagia.

Skeletal survey was normal and all tests administered in the hospital were negative. Esophagoscopy done nine days later, however, showed signs of cicatricial mucosal injury associated with telangiectasia; the endoscopist called this caustic esophagitis.

With treatment, the infant recovered. While the infant was still in the hospital, however, a second identical episode occurred. Munchausen syndrome by proxy (MSBP) was suspected and the child was transferred to Regional University Hospital.

Psychiatric evaluation of the mother revealed a history of self-mutilation from the age of 17. She confessed to having, on two occasions, mixed an antimescale agent in her child's food. The infant's mother was prosecuted and under French law she received a nine-year prison term.

Reviewed by Robert M. Reece, M.D.

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