



VOICES FROM THE FIELD - Medical Aspects of Child Maltreatment

**Marcellina Mian, MDCM, FRCPC
Hospital for Sick Children, Toronto**

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Service perspective

The World Health Organization's World Report on Violence and Health (WRVH), released in 2002, underscores the importance of the health sector's role in violence prevention.¹ Among its recommendations are two that pertain particularly to those of us working on the frontlines of child maltreatment prevention: to promote primary prevention responses; and to strengthen responses for victims of violence.

The CEECD papers on prevention discuss the role of health professionals in universal or primary prevention of child maltreatment, i.e. strategies aimed at all children and families to promote healthy and safe child development.² The medical assessment for child maltreatment should be part of regular well-child care, in which the physician aims not only to prevent infectious diseases and accidental injury, but also to identify factors that might predispose the child and family to maltreatment. When health-care providers identify children and families at risk for maltreatment, they can make referrals for supportive interventions aimed at mitigating the vulnerability factors.^{2,3,4}

Children who have been maltreated may present for health care as part of regular well-child care, or specifically as a result of their maltreatment. This gives health practitioners a vantage position from which to identify these children and, in so doing, take the first step to ending their ill treatment. The health-care provider can initiate these interventions by assessing the child; reporting the suspected maltreatment (as required by law in many jurisdictions); providing treatment, counselling and rehabilitation for the child and family or making the appropriate referrals; and monitoring the ongoing health of the child and the response to the interventions used.

One of the disappointments of working in this field has been the realization that front-line health practitioners are often reluctant to inquire about risk factors and to identify child maltreatment when it presents itself. Studies have shown a variety of causes for this reluctance. In a recent article, Levi and Loeben⁵ review the literature on the subject of professionals' failure to report suspicions of abuse and their underlying reservations. These include fear of the legal, financial and emotional hardships that follow a report, and the potential of doing more harm than good to the child and family, and fear of losing the relationship they have established with a family. The authors argue that significant

problems arise from a lack of clarity regarding the threshold that has been set for reporting, i.e. that the term “reasonable suspicion,” included in some form in most reporting legislation, is not well enough defined. Professionals interpret what constitutes abuse based on their own experience and on cultural factors, though knowledge has been demonstrated to improve discernment of what constitutes abuse.

There is no question that much knowledge has been amassed regarding the medical assessment of suspected child maltreatment since 1962, when Kempe wrote his first article on the Battered Child Syndrome.⁶ Application of this knowledge in the field allows evidence-based decisions on the likely mechanism or force that harmed a child. Findings found to be specific for non-accidental injury indicate that maltreatment has taken place even in the absence of any available history. Examples include skin bruises in the shape of a loop or other object pattern,⁷ and seminal fluid or sperm on a prepubertal child.⁸ Conversely, consideration must be given to conditions, either congenital or acquired (condition developed later in life), whose manifestations may be confused for abuse. Among these are infections such as impetigo (bacterial skin infection); skeletal dysplasias (diseases of bone formation); bleeding disorders and certain cultural practices, (e.g. coining: a procedure that involves rubbing warm oils or gels on a person's skin with a coin or other flat metal object to release the bad blood),^{9,10} lichen sclerosus (chronic inflammatory skin disorder affecting the genitals); and failure of midline fusion (a congenital malformation that appears as a groove in the genital area).¹¹ Other findings, such as an enlarged hymenal opening and spiral fractures, once thought to be indicative of abuse, have been shown to be non-specific as to cause.^{8,12}

Certain findings are evidence of child maltreatment if they are not accompanied by a plausible accidental history, preferably witnessed by an objective party, or evidence of organic (natural) disease. Examples of these are any bruising or fracture in an infant who is not yet mobile; bruises, especially if they are multiple, over soft parts of the body rather than bony prominences;^{7,13} rib fractures in infants;¹⁴ bilateral burns in stocking or glove distribution with clear lines of demarcation between scalded and normal skin;¹⁵ and penetrating genital injuries.⁸ The combination of subdural hemorrhages, especially if these are found between the two hemispheres of the brain, together with diffuse, multilayer retinal hemorrhages, rib and metaphyseal (growing part of the bone) fractures, with or without evidence of impact trauma, places abusive head injury high on the differential diagnosis.^{16,17}

In most cases, the main factor that allows clinicians to distinguish accidental from non-accidental injury is the lack of correlation between the explanation provided and the child's condition, given the child's developmental age. This requires a careful and detailed history and a meticulous physical examination, together with the appropriate investigations to identify hidden signs of trauma and detect or rule out organic or accidental causes. The conclusions from this medical assessment must take into account the psychosocial and forensic information gathered by child protection and law enforcement professionals, which means communication among these three sectors must be timely and clear.

In spite of all the available knowledge and skills required, a recent Canadian study has shown that pediatric trainees, who will become the health practitioners best able to safeguard the well-being of children, are only receiving limited training and are exposed to few cases dealing with child maltreatment.¹⁸ There are many competing specialties and pathologies to be mastered during pediatric training and limited time. Child abuse, however, is not an inconsequential problem. The annual incidence rate in 1998 was between 5.1 and 12.9 victims per 1000 children in developed countries, while a 1990 Canadian survey showed about a quarter of the people had been physically abused during their childhood, and about 13% of females and 4% of males were sexually abused.¹⁹

The WRVH is a clear call to the health sector to take the lead in violence prevention. The knowledge, skill and influence needed to do this effectively are within the grasp of health-care professionals. What we need is more widespread and more effective education efforts and a remuneration system for health-care providers that recognizes that child maltreatment cases require much more time than the billable encounter with the patient and family. We also need further advances in our knowledge of injury mechanisms and factors that differentiate non-accidental injury from other causes, so that children can be protected more effectively without causing unnecessary distress to families who are not placing their children's well-being at risk. This should also increase professionals' level of comfort in working with this difficult problem.

REFERENCES

1. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, eds. *World report on violence and health*. Geneva, Switzerland: World Health Organization; 2002. Available at: http://www.who.int/violence_injury_prevention/violence/world_report/en/FullWRVH.pdf. Accessed March 1, 2005.
2. Eckenrode J. The prevention of child abuse and neglect. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2004:1-7. Available at: <http://www.child-encyclopedia.com/documents/EckenrodeANGxp.pdf>. Accessed March 1, 2005.
3. MacMillan HL. Preventing child maltreatment. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2004:1-5. Available at: <http://www.child-encyclopedia.com/documents/MacMillanANGxp.pdf>. Accessed March 1, 2005.
4. Nelson G. The prevention of child maltreatment: Comments on Eckenrode, MacMillan and Wolfe. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2004:1-6. Available at: <http://www.child-encyclopedia.com/documents/NelsonANGxp.pdf>. Accessed March 1, 2005.
5. Levi BH, Loeben G. Index of suspicion: Feeling not believing. *Theoretical Medicine and Bioethics* 2004;25(4):277-310.
6. Kempe CH, Silver HK, Silverman FN, Droegemueller W, Steele BF. The battered child syndrome. *JAMA - Journal of the American Medical Association* 1962;181(1):17-24
7. Maguire S, Mann MK, Sibert J, Kemp A. Are there patterns of bruising in childhood which are diagnostic or suggestive of abuse? A systematic review. *Archives of Disease in Childhood* 2005;90(2):182-186.
8. Adams JA. Evolution of a classification scale: Medical evaluation of suspected child sexual abuse. *Child Maltreatment* 2001;6(1):31-36.
9. Stewart GM, Rosenberg NM. Conditions mistaken for child abuse: Part I. *Pediatric Emergency Care* 1996;12(2):116-121.
10. Stewart GM, Rosenberg NM. Conditions mistaken for child abuse: Part II. *Pediatric Emergency Care* 1996;12(3):217-221.
11. Bays J, Jenny C. Genital and anal conditions confused with child sexual abuse trauma. *American Journal of Diseases of Children* 1990;144(12):1319-1322.
12. Pierce MC, Bertocci GE, Vogeley E, Moreland MS. Evaluating long bone fractures in children: a biomechanical approach with illustrative cases. *Child Abuse and Neglect* 2004;28(5):505-524.
13. Sugar NF, Taylor JA, Feldman KW. Bruises in infants and toddlers: those who don't bruise rarely bruise. *Archives of Pediatrics & Adolescent Medicine* 1999;153(4):399-403.
14. Phillips B. Towards evidence based medicine for paediatricians. *Archives of Disease in Childhood* 2004;89(7):683-684.

15. Greenbaum AR, Donne J, Wilson D, Dunn KW. Intentional burn injury: an evidence-based, clinical and forensic review. *Burns* 2004;30(7):628-642.
16. Isaac R, Jenny C. Shaken baby syndrome. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2004:1-7. Available at: <http://www.child-encyclopedia.com/documents/Isaac-JennyANGxp.pdf>. Accessed March 1, 2005.
17. Bechtel K, Stoessel K, Leventhal JM, Ogle E, Teague B, Laviertes S, Banyas B, Allen K, Dziura J, Duncan C. Characteristics that distinguish accidental from abusive injury in hospitalized young children with head trauma. *Pediatrics* 2004;114(1):165-168.
18. Ward MGK, Bennett S, Plint AC, King WJ, Jabbour M, Gaboury I. Child protection: a neglected area of pediatric residency training. *Child Abuse and Neglect* 2004;28(10):1113-1122.
19. Trocmé N. Child maltreatment and its impact on psychosocial child development epidemiology. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2005:1-5. Available at: <http://www.child-encyclopedia.com/documents/TrocmeANGxp.pdf>. Accessed March 1, 2005.

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