Underreported, underacknowledged: child abuse can no longer be ignored

Child abuse is a serious problem in Hong Kong, and the recent Tin Shui Wai tragedy and assault of a 7-year-old boy have caused considerable public concern. Over the past 5 years, the number of new child abuse cases reported to the Child Protection Registry (CPR) by the Social Welfare Department has been increasing, and has recently risen by more than 50% from 622 cases in 2004 to 406 cases in just the first 6 months of 2005.[1] In fact, this represents a gross underestimate of the incidence of local child abuse. Using the Chinese version of the Conflict Tactics Scale, a study in 1998 found the base rate of physical child abuse in Hong Kong to be 526 per 1000 children for minor violence, and 461 per 1000 children for severe violence.[2] A recent household survey conducted by the University of Hong Kong and commissioned by Social Welfare Department also showed that at least 29% of children had experienced physical maltreatment or severe physical maltreatment and 6% of adult respondents claimed that they had severely or very severely physically abused their children in the past 12 months.[3] So each year, around 70 000 children under 18 years of age are being severely or very severely physically abused by their adult carers—not to mention other forms of abuse. The overall notification rate to the CPR is thus only 1% to 2%! Over a period of 2 years, 277 children were admitted to hospitals for substantiated physical child abuse and seven (1.2%) died as a result of their injuries.[4] Child abuse, besides causing physical harm and mortality, also carries long-term consequences in terms of impaired brain development, poor physical health, poor mental and emotional health, and cognitive and social difficulties.[5,6] The direct and indirect costs are enormous, amounting to 1% of gross domestic product in some countries, making prevention, early identification and intervention paramount public concerns.[6,7]

Physical abuse accounts for more than 55% of child abuse cases. The most common injuries are soft-tissue injuries followed by skeletal injuries, usually in the form of extremity fractures. The reported frequency of fractures associated with child abuse varies from 11% to 55%.[8] Recognising and distinguishing abusive from accidental fractures is vital, as failure to recognise abuse may lead to further abusive injuries and even death. It has been reported that a third of abused children will be abused again if there is no intervention, and 5% to 15% of them may die. While certain types of fractures may be highly suggestive of abuse injuries (eg spiral, nonsupracondylar humerus fracture; metaphyseal fractures; multiple fractures, especially of different ages), the distinction between an accidental long bone fracture and one resulting from abuse cannot be made based on appearance of the fracture alone. Knowledge of the epidemiology, biomechanics, or mechanism of the injury, as well as the development of the child and his or her risk factors for child abuse may help to determine the likelihood of abuse and justify further assessment by a multidisciplinary team, hence intervention.

The study by Fong et al[9] published in the present issue is thus of particular importance in describing child abuse risk factors in children with fractures associated with non-accidental injury, which include age younger than 3 years, lower socio-economic status (parents or guardians unemployed or recipients of Comprehensive Social Security Assistance), presentation of long bone fracture, and the record of parent's unplanned pregnancy.[9] If there is also a delay in seeking medical treatment and no plausible explanation for the injury, the non-accidental injury rate is almost 100%. The findings are quite consistent with those of other studies except that the children tended to be older in this series and, in some studies, femoral fractures were more common. The most common sites of fracture were the forearm (29%) and the ribs (24%), followed by the humerus (12%), hand (12%), femur (9%), tibia and/or fibula (5%), and foot (4%).[9] Forearm fractures resulting from child abuse are usually from twisting or hitting. Traditionally, femur fractures in young children are highly associated with child abuse. The main cause is a fall, especially from stairs or heights. Helfer et al[10] found that of 246 children younger than 5 years who had fallen from sofas, beds, or heights of less than 90 cm, only seven (3%) experienced fractures. Femur fractures resulting from falls down stairs are rare except in cases where the caregiver falls with the child.[11] Hence a femoral fracture in a young child should lead to further investigation of its cause. Rib fractures in small infants should arouse high suspicion of child abuse. There is a common misconception that bruises must accompany an underlying fracture, but in fact many fractures do not have superficial injuries, especially rib fractures, and careful imaging may be the only clue.

The use of scintigraphy in the diagnosis of child abuse is variable and is probably more widespread in

Australia and the United States than in the United Kingdom or Hong Kong. As indicated by Fong et al,[9] however, it does have a complementary role and improves identification and documentation of skeletal injuries. Whether both skeletal survey and scintigraphy should be performed in every case of suspected child abuse is controversial. If done, both must be performed meticulously and interpreted with radiologists. In case of doubt, a follow-up skeletal survey or scan is warranted.[12]

Finally, failure of orthopaedic surgeons and busy physicians in the emergency department to screen for possible abuse in a child presenting with a fracture is not uncommon. Education programmes alone may not be sufficient to address the problem. Structured clinical forms or checklists detailing when, how, where, and by what mechanism an injury occurred, whether the injury was witnessed, any other injuries, consistency of the injury with the history and development of the child, and any delay in seeking treatment, as well as other risk indicators and a history of the child's previous injuries and their types and specifics etc, may improve the assessment of child abuse in children with fractures or other injuries and should be introduced in accident and emergency departments, as well as orthopaedic departments. A common protocol should be developed by paediatricians, emergency physicians, orthopaedic surgeons, radiologists, and medical social workers. Computer-generated, complaint-specific, prompted ledgers may also improve awareness and compliance.

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