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Preventing shaking injuries in infants

A brief communication

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Fifty-two (52) cases of infant abusive head trauma (IAHT), investigated by the Queensland Police Service over a ten-year period, were examined for information on victim and offender demographics. The study revealed a mean age of 2.6 months for victims of assaults categorised as involving a shaking-type mechanism, indicating that the youngest infants are particularly susceptible to that form of injury. It was further demonstrated that abusive injuries are most likely to be caused by a primary caregiver, such as a biological or step-parent. It is thus hypothesised that to assist in prevention, some form of written caution on the dangers of infant shaking should be provided to all parents immediately prior to their child's departure from the maternity ward.

Infant abusive head trauma (IAHT) is one of the most important issues confronting law enforcement agencies, medical professionals and social welfare organisations in contemporary society – intensive care units and cemeteries across the country bear unfortunate witness to this fact. The majority of infants who receive a serious inflicted head injury will either die or suffer permanent neurological impairment (Duhaime et al. 1996; Levin 2000). Such injuries are not necessarily inflicted via impact. Numerous studies have confirmed that a shaking mechanism alone can result in life-threatening brain swelling with associated intracranial haematoma and/or retinal haemorrhages (Ludwig & Warman 1984; Alexander et al. 1990; Gilliland & Folberg 1996; Starling et al. 2004). The American Academy of Pediatrics (2001) describe shaken baby syndrome (SBS) as a 'clearly definable medical condition.'

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The Queensland Police Service (QPS) has recently conducted a research study of investigations into inflicted head trauma in infants up to two years of age. A total of 52 cases of IAHT – as investigated by the QPS between July 1993 and June 2003 and overseen by multi-agency Suspected Child Abuse and Neglect (SCAN) teams – were examined, 20 of which involved fatal injuries. The study was concerned chiefly with using the medical and witness evidence from those cases to further understanding of the mechanisms of trauma and the lapse of time between assault and onset of medical symptoms. (The findings in this regard were presented at the *ISPCAN International Conference on Child Abuse and Neglect*, Brisbane, September 2004.)

The purpose of this brief communication is to report and discuss data on victim and offender demographics collected during the study. The data reveals potentially useful information with respect to the future prevention of IAHT.

RESULTS

The 52 victims involved in the study had a mean age of 5.9 months. However, the mean victim age in the 16 cases with clear evidence of a shaking-type mechanism was 2.6 months. Shaking injuries were classified as those featuring a combination of intracranial (subdural or subarachnoid) haemorrhage and retinal haemorrhages and no medical or witness evidence of an impact injury.

Of the 41 offenders against whom a prosecution was commenced, 32 were male and 9 were female. More significantly, all 41 were primary caregivers – either a parent or step-parent of the victim, or engaged in a de-facto relationship with one of the victim's biological parents at the time of the event. The vast majority of assaults were unwitnessed, taking place when the offender was acting as sole carer of the infant victim.

DISCUSSION

The mean victim age of 5.9 months is a result that correlates with the findings of several earlier studies (Ludwig & Warman 1984; Starling, Holden & Jenny 1995; Tzioumi & Oates 1998). The predominance of male offenders also reflects previous research on serious infant assault (Starling, Holden & Jenny 1995; Strang 1996; Starling et al. 2004). Overall, the study shows that infants who suffer an inflicted

head injury are likely to receive that injury from their primary caregiver. The far lower mean age of those identified as having been subjected to a shaking event indicates that very young, non-mobile infants are particularly susceptible to that form of assault.

The need to educate soon-to-be parents on the dangers of shaking their child has been widely discussed (Dykes 1986; Showers 1992; Moran 2002). In New York State in 2001, a law was passed providing that information on SBS be distributed in brochure form to parents prior to discharge from the maternity ward (National Centre on Shaken Baby Syndrome 2004). However, very few maternity hospitals in Australia have implemented systematic procedures for the provision of information on SBS, and certainly there are no legislative provisions similar to those in New York State. One exception is the Royal Women's Hospital in Sydney, where an SBS pamphlet is routinely handed to mothers during their stay in the maternity ward. Elsewhere, strategies for SBS prevention are for the most part limited to warning pamphlets and posters on general display in common areas in hospitals and child welfare agencies, and video productions screened at pre-natal classes and the like.

If information on SBS were presented to parents immediately prior to discharge from the maternity ward, it would be more likely to remain fresh in their minds during the vital first few months of their infant's life. Parents typically receive a 'baby book' before departing the maternity hospital, in order to record immunisation dates and other milestones, and there is potential space in this book for some form of message on SBS to be included. In addition, strategies must be considered to reflect the high proportion of male offenders in IAHT. Perhaps any warning message or pamphlet should specifically address this issue by encouraging new mothers to discuss the dangers of shaking with partners and other prospective carers.

When interviewed by police, many offenders described their frustration leading up to the critical event in the face of the infant's crying or inability to settle or feed. Alternative strategies for dealing with infants in this situation could be reinforced in any written advice on shaking provided to new parents.

Finally, the prevention of IAHT requires that police and social workers maintain vigilance when called upon to deal with high-risk families. Any child protection case involving an infant child, no matter how ostensibly minor, must be closely assessed. When any concerns exist, an appropriate medical examination should be ordered; often the assault that produces a critical head injury is not the first committed upon the infant (Moran 2002).

The tragic loss of life and high social costs relating to ongoing care for survivors (Bonnier, Nassogne & Evrard 1995) demand that the authorities in this country take all possible steps to reduce the incidence of IAHT. Making the

provision of written advice on SBS to new parents mandatory is one of the simplest available strategies for combating this serious health and social problem. □

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