Babysling related injuries: a case report and literature review

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Case report
A 17 day old baby slipped from her babysling onto the pavement hitting the front of her head, when her mother accidentally tripped and fell over. The baby cried immediately, but her mother brought her to the accident and emergency department, as she was concerned that she had bumped her head.

On examination two large parietal swellings were noted, and skull radiography confirmed bilateral fractures extending from the coronal sutures anteriorly, to the lamboidal sutures posteriorly. The child was well, and as neurological assessment was normal no further investigations were done. The baby was observed on a paediatric ward and had hourly observations overnight—pulse rate, blood pressure, pupil diameter, and response to light. These all remained within normal limits.

The next morning the child was described by her mother as “irritable” and she attributed this to the fact that her child had been wakened hourly. General examination was unremarkable apart from the parietal swellings previously noted; she was therefore allowed to sleep undisturbed for several hours. On waking, she appeared well and she was therefore allowed home. Her parents were told that they could return with her to the ward at any time, if they had concerns.

She returned three days later as her parents were worried about increasing drowsiness. On assessment she was awake and alert, and neurological examination revealed no abnormality. However in view of her history computed tomography of her brain was arranged. This showed a small right sided subdural haemorrhage with no midline shift. She was once again allowed home, and follow up one week later revealed a well child, with resolving parietal swellings.

Discussion
Babyslings are commonly used to carry young babies by strapping the child to the front of an adult’s torso (see fig 1). Such slings may be used from birth (weight 3.5 kg) to approximately 12 months of age (12 kg). After this age, a back carrier is recommended to carry heavier children.

Data from one UK marketing company Fickett and Stevens Associates (5 Hillgate St, London W8 7SP) shows that sales of babyslings are on the increase. Total sales of slings/back carriers were up by 10% in April 1999 compared with December 1997. Approximately 300 000 slings/carriers were sold in 1998, that is one sling per three children born in the UK. This figure does not include secondhand sales figures. Clearly, this method of carrying children is popular.
Babysling related injuries

A survey done by the Department of Trade and Industry from 1992–97 in 18 hospitals in the UK showed that there were 20 reported cases of sling related injuries. There were no fatal injuries, but two babies were admitted, one of whom had a skull fracture.1

Injury data obtained from the database of the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) showed that there were 105 reports of sling related injuries seen in the emergency rooms of 10 paediatric and six general hospitals.2 Data collection from these hospitals began in 1990 in the paediatric hospitals and between 1991 and 1995 in the general hospitals. Nearly half of the injuries (44.8%) were seen in babies under 6 months, and one third of the injuries happened at home, and another 18.1% of the injuries occurred on roads, sidewalks, or in parking areas. In 35.2% the child was injured when the person carrying them tripped or fell. In 19% the baby had fallen out of the carrier while being carried, in another 19% injuries to babies occurred while the child was in the carrier but it was not being worn. In 5.7% injury occurred to the child while the carrier was being put on or taken off, or the child was being put in or taken out of the carrier. The majority of injuries were to the head or face (61%), and 10% of children had a skull fracture. Altogether 9.6% required hospital admission, 30% required treatment but were well enough to go home, and 51% were discharged with advice only.

Data on injuries from baby carriers have not been obtained for the US. However, a recent report has indicated that over 300 000 front and back baby carriers have been recalled in the US because small infants shifted to one side and slipped through a leg opening, and fell to the ground. Thirteen such babies were reported to the Consumer Product Safety Commission. Babies most at risk were less than 2 months old. One of these babies suffered a fractured skull, and a further two infants received bruises.3

Neurological observation of young babies is difficult to undertake and interpret. The Glasgow coma scale is inappropriate for use in young children, as normal verbal and motor responses embodied in the standard Glasgow coma scale are not achievable in the first few years of life. Other scales have been devised which takes into account a child’s age and therefore neurological immaturity, however additional information such as assessment of behaviour according to the main care giver needs to be considered.4 5

Guidelines for computed tomography of head injured children6 suggest that it is necessary in a child who has a fracture and a Glasgow coma score of less than 15, which is the maximum score. However the coma scale may be difficult to interpret. Intracranial injury may occur with few or subtle signs and symptoms, if any, especially in babies less than 12 months old.7 The absence of a skull fracture does not exclude intracranial injury.8 Other studies have demonstrated a poor correlation between clinical symptoms and findings on computed tomography.9

There should therefore be a low threshold for cranial imaging of young infants with head injuries, as clinical assessment may be very difficult.

Conclusion

A Medline search using headings of “babysling”, “harness” and “popousse”, failed to reveal any studies on the safety of babysling or further information on sling related injuries. However, from our data, it appears that babysling related injuries are uncommon both in the UK and Canada.

The authors recommend that simple safety measures are taken such as ensuring that the child fits snugly in the harness, with the head supported if the baby is less than 6 months, and another 18.1% of the injuries occurred on roads, sidewalks, or in parking areas. In 35.2% the child was injured when the person carrying them tripped or fell. In 19% the baby had fallen out of the carrier while being carried, in another 19% injuries to babies occurred while the child was in the carrier but it was not being worn. In 5.7% injury occurred to the child while the carrier was being put on or taken off, or the child was being put in or taken out of the carrier. The majority of injuries were to the head or face (61%), and 10% of children had a skull fracture. Altogether 9.6% required hospital admission, 30% required treatment but were well enough to go home, and 51% were discharged with advice only.

2 Child Injury Division, Bureau Of Reproductive and Child Health, Laboratory Centre For Disease Control, Canada. CHIRPP database. Ottawa: Child Injury Division, Bureau Of Reproductive and Child Health, Laboratory Centre For Disease Control, Canada, 1999.