Near-fatal aspiration of a child's dummy: design fault or deliberate injury?

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SUMMARY

A case is described of near fatal aspiration of a child's dummy. This caused extensive injuries to the mouth and pharynx and acute respiratory embarrassment necessitating admission to a paediatric intensive care unit, and multi-disciplinary assessment. A design fault in the dummy is discussed, and it is recommended that the British Standards specification for dummies be changed. Finally, the issue of non-accidental injury is discussed, with the suggestion that injuries to the soft tissues of the mouth and pharynx be treated with the same degree of suspicion as any other childhood injury.

Key words: infant pacifier, injury

INTRODUCTION

Plastic dummies, or infant pacifiers, are widely used by parents to settle their babies and are regulated by the British Standards Institute (BS 5239). They consist of a teat, a relatively inflexible flange, and a knob or a ring, to permit ease of extraction from the mouth if accidentally aspirated. The case of an injury involving an infant and a dummy, which conforms to British Standards (Fig. 1), is described in order to highlight issues of paediatric intensive care, dummy design and non-accidental injury.

CASE REPORT

A 4-month-old girl was the second child of unmarried parents; the first child died aged 10 weeks from Sudden Infant Death syndrome. The history given by the father was that the child was sitting in a 'baby bouncer' with the dummy in her mouth. She began crying, and then stopped, and was noted to be in distress. The child's father saw the dummy in the back of her mouth, and on picking her up, tried to retrieve it. However, as the dummy had a knob behind the flange rather than a ring, he was unable

Fig. 1. Dummy retrieved from child's mouth.

to grip the dummy. After several attempts, he managed to hook his index finger behind the flange, and retrieve the dummy. He then took her to the district general hospital, where she was found to have bleeding from the mouth. A superficial tear was seen on the right posterior pharyngeal wall. Within 8 h, she developed respiratory distress, and a chest radiograph showed a right pneumothorax. A chest drain was inserted, and after further respiratory deterioration, she was transferred to the regional paediatric intensive care unit.

The child was intubated and ventilated, and had extensive surgical emphysema on the left anterior chest wall. The chest radiograph revealed mediastinal emphysema. There was bruising and a minor laceration on the right soft palate, and a full thickness mucosal tear on the left soft palate. Laryngoscopy revealed a laceration at the posterior pharyngo-oesophageal junction. This was confirmed with a contrast study, which showed spillage of contrast

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into the soft tissue planes of the neck. The child was managed conservatively with antibiotic cover, and she was extubated 6 days later.

On transfer to the infant ward, she had generalized hypotonia. Attempts to bottle-feed her led to regurgitation of milk through the nose. Six weeks later she underwent an examination under anaesthetic, which showed granulation tissue at the pharyngo-oesophageal junction. This was removed and the child made a rapid recovery. Six months later, she was developmentally normal. She was able to take feeds, but still had difficulty with liquids.

The hospital child protection team was involved from the child's arrival at the regional unit. The injuries to the soft tissues of the mouth and pharynx were thought to be consistent with the father hooking his index finger behind the flange of the dummy, and causing the damage with his fingernail. However, the story was deemed implausible because the developmental age of the child precluded her being able to put the dummy into her mouth by herself, and the width of the flange was wider than the diameter of the child's mouth. Child protection procedures were implemented.

DISCUSSION

This case illustrates three important points.

(1) Children with injuries to the soft palate, or upper airway, should be managed in a unit with facilities for intubation and ventilation, before they develop respiratory embarrassment. This case highlighted the importance of multidisciplinary assessment which was able to be provided at the regional unit. Anaesthetic, cardiothoracic, ear, nose and throat (ENT), general paediatric and child protection teams all contributed to the management of this child. This level of expertise can only be provided in large regional paediatric units.

(2) There is at least one case in the literature of fatal asphyxia from inhaling a baby's dummy with difficulty in being able to extract it.¹ As far as we are aware, this is the first case that has been described in the UK. An amendment to the British Standards specification for babies' dummies,² relates a choking incident involving a dummy with a knob rather than a ring, and suggests that a voluntary standard should specify the incorporation of a ring behind the flange of dummies. We suggest this standard should be made compulsory. The case we describe demonstrates the difficulty gripping hold of a knob that is covered with saliva or mucus, and we believe dummies designed with rings would be easier to extract from babies' mouths. It should be noted that as a result of this case, the manufacturer recalled the product and changed the design to include a ring rather than a knob. However, dummies with knobs are still widely available and used across the country.

(3) Because of the implausible nature of the explanation as to how the dummy came to be in the child's mouth, the child protection team was involved. There was some initial reluctance to accept that these injuries were non-accidental, but child protection procedures were implemented. It is important to consider injuries to the mouth and throat with the same degree of suspicion, as any other childhood injury.

REFERENCES

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