The dangers of soft bedding for infants

Editor,—The paper by Bolton et al on the possible relationship of rebreathing in bedding to cot deaths raises only one aspect of the way in which bedding probably contributes to many of these deaths.1 The work of Bolton et al largely replicates the experiments of Kemp and Thach who used the faces of rabbits to study the effects of rebreathing into baby nest bean bags.2 After 35 deaths of babies face down in these bags, the US Consumer Safety Commission banned their production and the planned introduction of these bags into this country was abandoned.

We have believed for many years that a proportion of babies found face down as cot deaths die as a result of asphyxiation in their mattresses.

There are two factors in addition to rebreathing, one is the form of the surface in which the face is placed and the other, the softness and compressibility of the nose in young babies. When we were working upon means of obstructing breathing in babies we found that in some children a weight of only 10 g on the end of the nose would completely compress the nose in some children of 2 months of age.

In 1990 we showed, when we used machinery much like that used by Bolton et al, but used cadaver heads not a model, that considerable obstruction can be produced to breathing and the effects of regurgitated milk can be almost completely obstruct.3 At that time we concluded that the best sleeping surface for a baby would be a bale of hay!

Many babies who are found dead face down in cot deaths have a much regurgitated material in their nostrils.

For the last 15 years we have been attempting to develop a sleeping surface on which a child who becomes face down in its cot will not asphyxiate and some regurgitates and also that the effects of rebreathing are minimised. Such a sleeping system has been produced and has been tried out in the wards of the Sheffield Children's Hospital. This was described in the Health Visitor in 1990 and is currently being produced for general sale.

The New Zealand infant mortality situation is an intriguing one. In the early years of this century New Zealand led the world in its low infant mortality and it has only been during the last 20 or so years that the cot death rate there soared and seemed to rise more in the whites than in the Maoris but did not rise in the Pacific Islanders.

In 1986 when the New Zealand cot death rate was high, I was invited by the Plunket Society and their Minister of Health, to report on the situation and I visited New Zealand and looked into the actual circumstances and patterns in many centres throughout the country. There were a number of factors that could have accounted for the increased infant mortality rate but what appalled me most were the cot and bedding. It had become the fashion for babies to sleep directly on sheepskins and the softer and more fluffy the sheepskins the better. Infants were placed prone on these, often in cots with no hard base so that the babies were deep in woolly nests. I voiced my horror to everyone possible. At that time their sheep industry was in recession and there was a rash to drive to sell sheepskins for baby cots to the world!

Returning from New Zealand I stopped off in Hong Kong, which had a very low cot death rate. There I was taken around the villages by a social worker to see babies in their homes. There I do not recall seeing any cots or mattresses at all. The babies were simply lying on a piece of sheeting directly on the floor with somebody in the room with them the whole time.

J E EMERY
Sheffield Child Health Development Study, Children's Hospital, Sheffield S10 2TH


Early presentation of meningococcal disease after media publicity

Editor,—A petechial rash is often an early sign of meningococcal disease, but parents rarely seek medical advice about it.1 Press publicity about a recent outbreak of meningococcal disease mentioned the vasculitic rash in only 27% of articles, although this was present in 93% of cases.2 Increased public awareness of the significance of a petechial rash may lead to earlier presentation of meningococcal disease. Such earlier presentation may save lives.3 We report two cases where parents sought early medical advice about a vasculitic rash after being alerted to its significance by two television programmes.

A 2 year old girl had a fever and an irritable course of an afternoon. At 7 pm her mother recognised the development of a petechial rash as the herald of meningococcal disease, having seen a similar rash on the television programme The Time, The Place that morning.

His mother immediately sought medical advice and insisted on her child's admission to hospital. Meningococcal septicaemia was diagnosed on admission and immediate resuscitation and antibiotics, and he was transferred to the regional paediatric intensive care unit for two days of introtopic and ventilatory support. He has subsequently made a full recovery.

The second child, aged 1 year, was admitted 3 months later. Her parents awoke to find her covered in a petechial rash. On the evening before admission they had watched a feature on meningococcal disease on the programme That's Life. They brought her immediately to hospital where she was admitted to the paediatric intensive care unit. She was given antibiotics, ventilated, and required the use of a ventilator over three days. She has also now made a full recovery.

The parents of both children sought medical advice because they recognised a petechial rash after seeing it on television. These two cases show that appropriate publicity about the presenting features of meningococcal disease can lead to early presentation and successful treatment if accurate information is given. A television campaign similar to one screened in Norway, highlighting the features of meningococcal disease, resulted in the virus being admitted to further cases being treated earlier.

J L EMERY
Sheffield Child Health Development Study, Children's Hospital, Sheffield S10 2TH


National follow up of Haemophilus influenzae meningitis

Editor,—In view of the recent introduction of a vaccine to protect children against Haemophilus influenzae type b infection, it is timely to report preliminary findings from a five year follow up of 440 children surviving H influenzae meningitis in infancy. This forms part of a national follow up of 1794 children who had meningitis from a variety of causes in their first year of life between 1985 and 1987. These cases were reported by hospital paediatricians at the time of diagnosis through an active reporting system. Methods of case identification, details of initial illness, and immediate outcome (case fatality rate and percentage for children with H influenzae meningitis) have been previously reported.1 Age at the time of diagnosis is known for 433/440 of these children, 87% (381) were aged between 4 and 12 months.

Information on health and development of these children at 5 years of age is being sought from general practitioners (GPs) and parents by postal questionnaire, together with similar data for a control population matched for age and sex. Data obtained from GPs are currently available for 373/440 (85%) children surviving H influenzae meningitis in their first year.

A total of 255 (68%) children were reported by GPs to have no health or developmental problem, a further 88 (24%) had minor problems such as squat, conductive hearing loss, speech, or language delay, and 30 children (8%) had significant neurodevelopmental problems. These include 14 (4%) with a sensorinorminal hearing loss, nine (2%) with multiple developmental problems with mental impairment, and five (1%) with epilepsy of which 4% were for children with H influenzae meningitis) have been previously reported.1 Age at the time of diagnosis is known for 29 of the 30 children with significant problems: 27 were aged between 4 and 12 months, one was less than 1 month, and one was 3–8 months. With a suggested potential efficacy of at least 90%,2,3 immunisation with H influenzae type b vaccine could have protected 24 of these children from the disease.

Rates of significant neurodevelopmental problems after H influenzae meningitis reported from other studies range from 8% to 37%.3,4 Our findings are preliminary and should be treated with caution as data collection is not yet complete. Further detailed analysis of these data from GPs as well as information from parents and from both sources for the control population is in progress.

A vaccine providing protection against H influenzae type b infection was introduced...
to the UK in October 1992 with the aim of eliminating the disease. In order to achieve and maintain high vaccine uptake it is essential that health professionals and parents fully appreciate the potentially serious consequences of this disease.

HELEN BEDFORD
CATHERINE PECKHAM
Department of Epidemiology and Biostatistics,
Institute of Child Health,
30 Guilford Street,
London WC1N 1EH

SUSAN HALKET
ROSALINDE HURLEY
DAVID HARVEY
JOHN DE LOUVOIS
Karim Centre for Meningitis Research,
Queen Charlotte's and Chelsea Hospital,
Goldhawk Road,
London W6 0XG

Is hearing assessed after bacterial meningitis?

EDITOR,—Fortnum and Hull reported that 89-4% of 686 paediatricians in the UK claimed to refer children for hearing assessment after bacterial meningitis1 and Fortnum stressed the importance of 'the paediatric service to ensure a fail-safe administrative system exists to make certain that referral actually occurs.' We have audited various aspects of meningitis care of children admitted to the Royal Belfast Hospital for Sick Children. There are 11 paediatricians attached to this hospital who are likely to have children admitted with acute meningitis and all are aware of the need for formal hearing assessment after bacterial meningitis. During the year from September 1990–1 we identified 39 cases of meningitis with four deaths. A written note was recorded in all the remaining 35 casenote charts that a formal hearing assessment was to be made at an outpatient visit. However, our audiology department only received 19 requests out of 35 (54%) and three of these patients failed to attend. After this audit we decided that: (1) all patients were to have a formal hearing assessment in the audiology department when they had recovered from the acute effects of meningitis and immediately before discharge, that is as inpatients and (2) those with an impairment detected at this early assessment should be followed up in 4–6 weeks' time to allow for resolution of any associated conductive impairment.

The audit was repeated for 1992 and 25 of 29 (86%) of children had had formal hearing assessments made. We would like to stress the importance of providing a 'fail-safe' system to make certain that referral actually occurs.

MICHAEL D SHIELDS
PATRICIA BERESFORD
Royal Belfast Hospital for Sick Children,
180 Falls Road, Belfast BT12 6BE


References

National follow up of Haemophilus influenzae meningitis.

H Bedford, C Peckham, S Halket, D Hurley, D Harvey and J de Louvois

Arch Dis Child 1993 69: 711-712
doi: 10.1136/adc.69.6.711-b

Updated information and services can be found at:
http://adc.bmj.com/content/69/6/711.3.citation

These include:

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/