The First Year of Life

H B VALMAN

CRYING BABIES

Apart from the subtle method of eye-to-eye communication the baby has no other way of signalling his needs to his mother than by crying. The baby who is quiet or "good" may be abnormal or ill. As crying is a non-specific call for help, obvious needs should be investigated. In most cases no remediable cause is found and the problem may resolve spontaneously when the infant is about 3 months old. By then, however, the parents may have become exhausted from lack of sleep. As well as suggesting any appropriate management, the family doctor should encourage parents to take one or two evenings off together each week to visit friends or go to a film.

Sound spectrography has confirmed the clinical impression that cries of cerebral irritability, pain, and hunger are different in quality, but this method is not available to most clinicians. During the first month infants do not shed tears when they cry, and even after the age of about 6 months many infants cry at night without shedding tears.

Hunger and thirst

Babies often cry and become restless just before a feed is due, and in the early weeks of life the infant may demand to be fed three hourly or even two hourly. This is perfectly normal for a breast-fed baby or even a bottle-fed baby receiving low-solute cows' milk preparations. Preterm infants need particularly high milk intakes for "catch-up" growth and they may become less demanding when they reach their final centiles for weight. Mothers who have fed a previous infant with the older full-cream cows' milk preparations may be surprised how often their new babies, fed on the lower-solute milks, want to be fed.

The volumes of bottled milk recommended are only average amounts, and many infants will therefore need more to prevent excessive hunger. Regular weighing and the use of a growth chart to plot the results are the only ways of ensuring that the infant is obtaining the correct amount of feeds. Feeding at regular intervals is apt to cause crying in many babies and demand feeding is preferable. Some infants scream when they approach the breast, and the help of an experienced midwife is needed to overcome this problem.

The age at which infants sleep through the night and do not require a night feed varies greatly. It usually occurs when the infant weighs about 5 kg, and a mother may be worried because her neighbour's child of a similar age has already omitted the night feed. Similar competition between mothers over which baby first manages three meals a day may also lead to inadequate feeding and crying.

It is impossible to determine the difference between a cry due to hunger and a cry due to thirst. The only way of solving this problem is to offer the infant water twice daily. This can be easily given at the time that the mother normally has a mid-morning coffee or afternoon cup of tea. Some infants dislike the taste of boiled tap water so a little fruit juice or one teaspoonful of sugar can be added to 3 oz (100 ml) of water.

Lack of physical contact

Even the newborn infant cries to obtain physical contact and the crying stops as soon as he is picked up. It does not spoil a baby to pick him up when he wants contact. Once he is a few weeks old the infant begins to have periods of waking, and some will not tolerate being left in a pram or cot by themselves. A harness which allows the infant to remain in contact with his mother's body will often satisfy these infants.

Alternatively, a canvas chair can be used even as early as 1 month and can be placed in a safe position in the kitchen or wherever the mother is working.

If the baby does not stop crying when held, walking with the infant, rocking him, or taking him for a car ride may stop the crying.

Wrapping the infant in a blanket and putting him firmly into a carrycot or very small cot may also provide contact although by an impersonal method.

Non-nutritive sucking stops crying, provided the baby is not hungry. Putting a dummy into the mouth of a crying baby who is not hungry may be effective as a temporary measure.

Three months' colic and feeding problems

Three months' colic is the name given to a syndrome which usually begins at about 2 weeks of age and has usually stopped by 4 months. The infant screams, draws up his legs, and cannot be comforted by milk, being picked up, or having his napkin changed. This characteristically occurs in the early evening, when the mother is busy getting supper ready, has less time to play with the baby, and may be anxious. Breast-feeding mothers may have less milk at that time of the day. Dicyclomine hydrochloride (Merbentyl), an anti-spasmodic drug, has been used for these babies, though there is no evidence that spasm of the gut occurs in this syndrome. If this drug is used it should be given 20 minutes before the late afternoon feeds only.

Some babies swallow excessive air during feeding as a result of milk spurting from the breast or a very small hole in the teat of the bottle. Mothers usually complain that these infants gulp at the beginning of the feed and they have particular difficulty in bringing up the wind. This problem does not occur in societies where babies are held on the mothers' backs for most of the day. The infant's abdomen is pressed against the mother's back and the infant is kept upright, which is the best position for releasing excessive gastric air.

If the baby is fed by bottle the size of the hole in the bottle teat should be checked and made larger with a hot needle if necessary. If the milk spurts from the breast the first ounce or so should be expressed manually and given to the infant later if necessary. The infant can be winded most easily by putting him prone with his head higher than his feet.

Other causes

Illness—If an infant starts crying persistently, especially if he has not cried like this before, disease should be suspected. Acute otitis media often causes persistent crying at night, but meningitis or a urinary tract infection may have no specific signs. An intussusception is an invagination of a proximal part of the gut into a more distal portion and may result in partial or complete intestinal obstruction. The infant has sudden attacks of screaming and pallor which last for a few minutes and recur every 10 to 20 minutes. Between attacks the infant appears normal. Blood-stained mucus may be passed rectally. The abdomen is tender only during attacks, but rarely there is a mass over the course of the colon. If intussusception is suspected the infant should be admitted to hospital.

Mechanical problems—Babies do not seem distressed when their napkins are wet or soiled, though some cry when they are being undressed or changed. An open safety pin is an extremely rare cause of crying.

Fatigue—When a young infant has been on a long journey or has been stimulated more than usual by playing with relatives he may become irritable and not keen to sleep.

Failure of mother-infant bonding—Crying may be a sign of this, which may be related to the character of the infant as much as the response of the mother. The crying may represent the difficulties of each adjusting to the other. If an infant has been crying persistently for several weeks the possibility of severe depression in the mother should be considered. This depression could be the cause or the result of the crying. These mothers are exhausted by lack of sleep and particularly liable to injure their infants, and both mother and infant may need to be admitted to hospital for diagnosis and management.

For most infants none of the above reasons for crying are present. The parents need reassuring strongly after examination that their infant is healthy and that the problem will resolve spontaneously. Sedation of the infant with promethazine hydrochloride (Phenergan) for a week or so during a difficult period may enable the mother to regain some of her strength. The drug should not be used for longer since it loses its effect and may produce irritability in the infant. Only a few doses should be prescribed as the mother may take them herself or give too many to her infant in a depressive episode.

Special problems after the age of 3 months

Loneliness is probably the commonest cause of crying after the age of 3 months. While they are awake during the day some infants will not tolerate being left alone but are happy if they are left in the room where the mother is working. These infants are extremely interested in their surroundings and need the stimulation of things going on around them. Similarly infants need to be propped up when out in their prams, and when they begin to reach out they need simple toys to play with.

Separation from the mother during admission to hospital or when parents go on holiday by themselves may be followed by bouts of crying. An infant can relate to only two or three adults at a time, and frequent changes in caretaker may be associated with crying.

After about 5 months an infant may cry when a stranger approaches him or when he sleeps in a different room. He may wake suddenly and appear terrified, which might be due to a nightmare although there is no method of proving this.

Infants who do not sleep after 3 months

During the first few weeks of life some babies sleep almost continuously for the 24 hours whereas others sleep for only about 12 hours. Many mothers consider that a newborn baby should sleep continuously and do not realise that the baby takes an interest in what is going on around him. Infants who need little sleep may wake regularly at 2 or 4 am and remain awake for two or three hours. Some are settled by a drink, but others cry persistently after this and the mother may have to take the infant into her own bed before he goes to sleep. Some infants wake in a similar way but are then content to remain awake looking at mobiles above their cots or playing with toys left in the cot.

There is no easy solution for the infants who refuse to go to sleep again and persist in crying. It may be helpful to leave on a small reading lamp or leave the door open with the hall light on and make sure that there are no frightening pictures or objects in the room. A sedative such as promethazine hydrochloride given when the infant wakes may be effective for a week or two but it often makes the infant irritable in the morning. As the infant becomes older he will be more able to play with toys by himself, and by the age of 2 years some of these infants will have changed their sleep pattern so that they wake at 6 am, which is more acceptable to the mother. If the mother intends that the infant should eventually sleep in a separate room, it is best to carry this out before the age of 5 or 6 months as sleep disturbance is less likely then.

During the night babies often open their eyes and lift their heads and move their limbs. If they are not touched they fall back to sleep again. If the cot is beside the mother she probably wakes as a result of his moving, gets out of bed, and looks at him. The infant may see or hear her and this may wake him and he cries. If the baby is in a separate room the mother does not hear these movements.

Infants go to sleep more easily at night if there is a repeated bedtime ritual. A warm bath followed by being wrapped in particular blankets may later be replaced by the mother or father reading from a book or singing nursery rhymes before the light is turned out. Even small infants may be upset if these routines are changed. A soft cuddly toy of any type can lie next to the infant from shortly after birth.

Dr H B Valman, MD, FRCP, is consultant paediatrician, Northwick Park Hospital and Clinical Research Centre, Harrow.

The articles in this series are being collected into a book, which will be available at the end of June from The Publisher, *BMJ*. (Price: Inland £5.00; overseas US \$12.50 (£4.50 or US \$11.25 for BMA members).)

Common napkin rashes

Napkin rashes are usually due to ammoniacal dermatitis, seborrhoeic dermatitis, or anal excoriation.

Ammoniacal dermatitis is caused by ammonia produced by faecal bacterial enzymes acting on urea in the urine. Erythema, papules, scaling, and erosions appear in areas that have been in contact with napkins soaked with urine. The principle of treatment is to keep urine and faeces away from the skin. Initial treatment includes changing napkins frequently, using disposable napkins during the day, inserting a nappy liner between the napkin and the skin, or leaving the child without a napkin. A zinc cream is applied to the affected area every time the napkin is changed; in resistant cases a silicone cream is used. Infants aged over 6 months need a towelling napkin at night, as a disposable napkin may become completely soaked with urine. Towelling napkins need thorough rinsing after washing because residual detergent may prolong the problem.

If the rash does not improve within 10 days *Candida* infection of the lesions should be considered. This rash has a fiery red appearance with a scaly edge, often with a few early papules separated from the main eruption. Nystatin cream should be applied to the rash each time the napkin is changed for at least a week. The infant's mouth should be examined to determine whether white plaques of candida are present and an oral suspension of nystatin is needed. In breast-fed infants the mother's nipples should be examined, as a scaling dermatitis of the nipples can be due to *Candida* and may reinfect the infant.

Any infant with a rash in the napkin area should be undressed completely to ensure that he does not have a rash elsewhere. In *seborrhoeic dermatitis* the erythema and scaling may also affect the axillae, neck, the area behind the ears, scalp, forehead, and eyelids. The scalp may be covered with adherent hard crusted plaques (cradle cap). Secondary infection by staphylococci, streptococci, or *Candida* is common. The condition always begins before the age of 3 months and clears completely without treatment by 9 months. In contrast to the infant with ammoniacal dermatitis, the infant with seborrhoeic dermatitis is oblivious of his rash. The cause is unknown and there is usually no family history of dermatitis. 1% or 0.5% hydrocortisone cream is rapidly effective and the lesions usually clear completely within a few weeks. In severe cases nystatin or an antibacterial agent may be added to the cream. Cradle cap can be removed by applying an ointment containing 0.5% salicylic acid in soft paraffin for a week. It should be left on the scalp for about an hour once a day and then removed with shampoo.

If the rash affects mainly the perianal area it is probably due to persistently loose stools. *Perianal excoriation* is commonly found in infants with gastroenteritis and resolves when the diarrhoea stops. Zinc cream or exposure may hasten the resolution of the lesions, but changes in the stool pH and consistency are the most important factors.