months post term. Those children who sucked their thumb or fingers or used a soft attachment object woke significantly less at night than the others (9% compared with 29%). Waking was least common (4%) in those who used a soft object, either alone or with another comforter. Dummy users were as likely to wake as those with no comforter.

In this group of low birthweight infants, 23% were waking and needing attention at night. This is comparable with studies on term infants that showed that 30% of 3 month old infants were waking, as were 20% of 1 to 2 year olds.¹

The majority of children here (77%) did not disturb their parents at night. Video recordings have shown that many infants wake and fall asleep again without needing attention. One explanation for our findings would be that in the group of children who needed comforting to settle again at night, some were able to soothe themselves with a thumb or attachment object (which Bowlby regarded as substitutes for the mother), whereas the others required parental attention. Children who use effective comforters, however, may be intrinsically different and less likely to wake at night. Dummies were not effective in respect of night waking; we suggest this may be because they are easily lost.

Winnicott's work would suggest that, like thumb sucking, use of a 'transitional object' is spontaneous and cannot be deliberately initiated by parents.⁶ However, there is no evidence on whether constantly

providing a particular cloth might encourage a child to develop an attachment to it. Conversely, the extent to which parents can discourage attachment object use, when they dislike the practice, is not known. If further research indicated that use of a special soft object could be encouraged and could decrease night waking, this might prove to be of considerable value in families where there has been a problem with sleep disturbance.

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As sick as a pigeon—psittacosis myelitis

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SUMMARY An association between acute transverse myelitis and psittacosis in a teenage boy is described. Closer collaboration between doctors and vets might have made the diagnosis sooner. A full paediatric history should include details of contact with pets and other animals.

Sudden onset of paraparesis is uncommon in children; the differential diagnosis includes trauma, vascular malformation, Guillain-Barré syndrome, transverse myelitis, or cord compression. Psittacosis has been implicated in the Guillain-Barré syndrome in four reported cases,¹ but we are unaware of any published association between psittacosis and acute transverse myelitis.

Case report

A previously healthy 15 year old boy developed coryza and sore throat followed by a productive cough with purulent sputum. Eight days later he developed sudden onset of paraesthesia and leg weakness. On arrival at hospital three hours later he had weak flexion and extension of hips and knees, with a flaccid paralysis below the knees, and absent lower limb reflexes. Abdominal reflexes were present. Sensation (including proprioception and vibration) was impaired below L2.

Over the next six days he developed complete loss of sphincter control and his sensory deficit extended to T11. He also developed severe back and abdominal pain that required pethidine for two weeks.

Haemoglobin concentration, white cell count, and

sedimentation rate were normal. His cerebrospinal fluid contained polymorphs at $1/\mu\text{l}$ with a protein content of 0.42 g/l , and a normal glucose concentration. No bacteria were grown. Spinal radiography and myelography gave normal results. Paired sera showed low or absent titres with no rise in antibodies against measles, rubella, varicella, mumps, herpes, cytomegalovirus, or Epstein-Barr or polio viruses. Tests for syphilis were not done.

He made a very slow recovery complicated by painful muscle contractions and segmental hyperaesthesia, which, together with urinary incontinence, contributed to a reactive depression. Eight months after onset, while still in hospital, he became profoundly preoccupied with his own death, which he was convinced would be imminent 'because that's what happened to the birds'.

It transpired that his father, a bird fancier, had lost two budgerigars and 10 racing pigeons during the previous year. All had developed a clinical syndrome of ataxia and limb paralysis, followed by death. The patient strongly disliked the birds and had expressed this in a direct adolescent manner. Hence he was given the household chore of cleaning out the bird cages. The parents had not considered the birds' deaths to be relevant to the boy's illness, nor had they mentioned his paralysis to their vet. The vet had diagnosed paramyxovirus infection (there was a national epidemic affecting similar birds) and provided vaccine for the remaining birds. Although birds continued to die, the family did not consult the vet again.

Necropsies of both a paralysed and an unaffected pigeon showed psittacosis in the affected bird. The patient's acute phase serum was now no longer available but serum taken at this time (that is, eight months after onset) had a psittacosis titre (complement fixation test) of 1 in 64. Repeat titres 24 months after onset were negligible. Psittacosis antibodies in the rest of the family were undetectable.

Two years on the patient has recovered some mobility and sphincter control, but still has diminished power in both legs, residual left foot drop, and considerable frequency of micturition. He now attends college full time in a wheelchair. No further improvement is expected as maximum recovery usually occurs in the first six months.^{2 3}

Discussion

The association between the transverse myelitis and psittacosis in this boy is strong. It is not always easy to differentiate between transverse myelitis and Guillain-Barré syndrome but severe backpain, loss of sphincter control, and a clear sensory level made the distinction here.^{3 4}

The evidence for a coexisting psittacosis infection at the onset of his illness could be questioned. A four fold increase in psittacosis complement fixation titres in the acute phase or a four fold decrease in titres in the late convalescent phase and/or complement fixation titres of 1 in 64 or more, are considered to indicate infection with *Chlamydia psittaci*.^{5 6}

Psittacosis titres were not assayed in the acute phase but a chest infection at onset and an antipsittacosis titre of 1 in 64, eight months after his last exposure to infected pigeons, which dropped to unrecordable levels 24 months later are consistent with this diagnosis. It is possible, though unlikely, that the paralytic illness could have been avoided had an association been made between his respiratory symptoms and the birds' illness. The family consider themselves fortunate that no-one else was affected and they have destroyed the remaining birds.

Psittacosis was thought to arise from the psittacine family of birds only but it can arise from other birds and is now alternatively termed ornithosis. As it can also arise from other animals,⁶ we have reverted to the more established name here. Affected birds characteristically show fluffed feathers, beak discharge, and diarrhoea but ducks and pigeons manifest an ataxic syndrome. The infectivity of different birds to man is striking: pigeons are poorly infective while parakeets (including budgerigars) are highly infectious. Humans are usually infected by the airborne route and the main symptoms are respiratory. Extrapulmonary manifestations include myocarditis, nephritis, thrombophlebitis, and meningo-encephalitis: patients may be grossly disorientated or semicomatose often with features suggesting pyogenic meningitis. Severe diffuse headache is usually present. Children and adolescents have a milder and less specific illness so the diagnosis may be overlooked.

Psittacosis is one of the commonest zoonoses. Most wild urban birds are infected and the level of risk of human exposure may be underestimated. In puzzling or bizarre illnesses it is important to inquire about pets, animal contacts, and hobbies. Others have stressed the importance of maintaining close links between doctors and vets. This admonition clearly applies even in urban practice.

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