

amounts of which would have given highly misleading results.

No antibiotic regimen currently available provides total cover against the wide range of neonatal pathogens, although in our experience ceftazidime has distinct advantages over the alternatives bearing in mind that among our patients four of 30 bacteraemia were due to *Pseudomonas*. Colonisation with faecal streptococci occurs, and if ceftazidime treatment is to continue for more than five days it is our practice to add ampicillin to the prescription.

To condemn its use in neonates because it failed to clear infections that had previously not responded to treatment with other antibiotics, or where initiation of treatment had been delayed, is to apply quite unrealistic demands on any antibiotic. If treatment is started promptly ceftazidime is a very appropriate antibiotic for the initial blind treatment of neonatal sepsis.

J DE LOUVOIS AND A B MULHALL
Queen Charlotte's Maternity Hospital,
London W6 0XG

Dr Low and co-workers comment:

Drs de Louvois and Mulhall's wide experience using ceftazidime will be useful, when published, in improving the evaluation of this antibiotic.

Reasons for ceftazidime's ineffectiveness against the case of *Escherichia coli* meningitis and one of the cases of group B streptococcal sepsis were acknowledged in our paper. Without going into great details about the case of *Enterobacter cloacae*/enterococcal infection, this was not a matter of penicillin and gentamicin failing—this course of antibiotics had been stopped as the baby was well. He then became unwell with organisms resistant to ceftazidime.

The point about cerebrospinal fluid being contaminated with blood is well taken. There was some blood in the samples from cases 2, 11, 12, 35, and 42 and these results may be falsely high.

We find it inconsistent to state that ceftazidime is inappropriate for confirmed cases of group B streptococcal and *Staphylococcus aureus* infection, two of the commonest neonatal pathogens, while at the same time advocating its use for initial blind treatment. McCracken has recently written that most group B streptococcal meningitis is sterilised within 24 hours using ampicillin and gentamicin.⁴ Unless this can be stated confidently about ceftazidime, surely there must be reservations about its usage.

References

- Pollock I, Mulhall A, de Louvois J. Ceftazidime in the treatment of neonatal infection. *J Hosp Infect* 1985;6:158-65.
- de Louvois J, Mulhall A. *Ceftazidime in the blind treatment of neonates*. Excerpta Medica, (in press).
- Low DC, Bissenden JG, Wise R. Ceftazidime in neonatal infections. *Arch Dis Child* 1985;60:360-4.
- McCracken EH. New developments in the management of children with bacterial meningitis. *Pediatr Infect Dis* 1984; Suppl 3:S32-4.

Toxic shock syndrome

Sir,

We read with interest the recent description of toxic shock syndrome by Buchdahl *et al.*¹ We have recently seen a case, also within the London area, which fulfils the diagnostic criteria, and which confirms the potentially lethal nature of the condition. A previously well 3 year old boy of Indian origin was admitted to hospital comatose, after a convulsion. There was a two day history of pyrexia, diarrhoea, and vomiting. On examination he was unresponsive to all stimuli. Rectal temperature was 42°C. There was an erythematous-purpuric rash on the legs, which subsequently spread to the trunk and arms. He was severely shocked, with a systolic blood pressure of 60 mm Hg and poor peripheral perfusion. Biochemical abnormalities included severe metabolic acidosis, hyponatraemia, hypocalcaemia, and raised blood urea (9 mmol/l) and transaminases. He was anaemic (haemoglobin 7 gm/dl) and thrombocytopenic (platelet count $47 \times 10^9/l$). The prothrombin and thrombin times were prolonged and fibrin degradation products were raised, indicating disseminated intravascular coagulation. Despite instituting all the intensive support measures outlined by Buchdahl *et al.*, and the administration of intravenous penicillin, chloramphenicol, and cefuroxime, he died within 12 hours of admission. *Staphylococcus aureus*, sensitive to chloramphenicol and cefuroxime, was subsequently isolated from blood cultures.

In severe cases of toxic shock syndrome it may be difficult to distinguish the effects of toxin production from those of overwhelming septicaemia, and antibiotics should be given in addition to supportive measures. In young children meningococcaemia is the commonest cause of fulminant illness with a purpuric rash, and appropriate antibiotics are given before the availability of culture reports. Should further reports confirm the impression of an increasing incidence of toxic shock syndrome in children, perhaps antistaphylococcal treatment should also be considered in these circumstances.

Reference

- Buchdahl R, Levin M, Wilkins B, *et al.* Toxic shock syndrome. *Arch Dis Child* 1985;60:563-7.

T GERRARD, D J MANNING, AND G J A I SNODGRASS
The London Hospital,
Whitechapel,
London E1 1BB

Dress of infants in health and illness

Sir,

I read with interest the paper by Eiser *et al.*¹ While working in Leicester I carried out a small survey with local health visitors to find out how infants were dressed and wrapped for sleeping and how mothers adjusted clothing and wrapping if the infant was ill. An unselected group of

74 mothers with infants of 6 months or less were questioned. Details of our findings are summarised below.

This summary was also prompted by the reported links between overheating and illness (including febrile convulsions) and death.

It confirms the findings of Eiser *et al* that most infants sleep in babygros made of synthetic material rather than the traditional nightie. The amount of clothing or wrapping, or both, was not related to prematurity or previous illness in the infants. The most 'dressed' infant was a well term baby who slept in vest, babygro, mittens, boots, and fleecy sleeping bag. The 17% of mothers of term infants and 42% of mothers of preterm infants who said they would increase their infants' wrapping during illness, were likely to have been acting inappropriately. Even those who

Table 1 *Clothing and heating of infants*

	<i>Term infants</i>		<i>Preterm infants</i>	
Number of infants	62		12	
Asian origin	3		2	
Mean postnatal age (weeks)	13		12	
Male:Female	31:31		11:1	
Number readmitted to hospital	2 (3%)		4 (33%)	
<i>Clothing for sleeping</i>	<i>Winter</i>	<i>Summer</i>	<i>Winter</i>	<i>Summer</i>
	(%)	(%)	(%)	(%)
Babygro	73	80	75	75
Nightie	11	14	17	17
Fleecy sleepsuit/ sleeping bag	16	0	17+	0
			babygro	
<i>Heating in bedroom</i>				
	Central heating	70	75	
	No heating	16	8	
	Additional heaters	14	17	

Table 2 *Changes in wrapping or clothing when infant is ill (%)*

No change	59	58
Increase	17	42
Decrease	31	8

(Overlap is due to mothers who said they would increase or decrease wrapping depending upon whether the infant felt hot or cold.)

specified that they would alter response depending upon whether the infant felt hot or cold could well have been misled. Peripheral temperature is a poor guide to central temperature during illness. The high percentage of mothers of preterm infants who would have increased the infants' wrapping in response to illness is particularly important in view of the preterm infants' poor defences against overheating.²

These results support the view that there is a need for further education of mothers of young infants. I would like to take this opportunity to thank all the health visitors in and around Leicester who kindly helped with the compilation of this survey. Health visitors are, of course, the most able health workers to assist paediatricians, GPs and mothers with education in this field.

References

- ¹ Eiser C, Town C, Tripp J. Dress and care of infants in health and illness. *Arch Dis Child* 1985;**60**:465-70.
- ² Harpin VA, Chellapph G, Rutter N. Responses of the newborn infant to overheating. *Biol Neonate* 1983;**44**:65-75.

VALERIE HARPIN
John Radcliffe Hospital,
Oxford OX3 9DU