

Neonatal Salmonella Infection

With reference to the recent article (1), we would also like to share our experience of neonatal salmonella infection presenting as meningitis and brain abscess. A 1500 g baby girl was born at 37 weeks gestation to a primigravida by normal vaginal delivery. There was no history of birth asphyxia and no postnatal complications up to the 5th day. On the 5th day, the baby was noted to be ill and irritable. Blood count showed 60% polymorphs and a leucocyte count of 12,600/cu mm. Serum CRP was positive. Blood culture, however, was negative. The initial CSF study showed 500 cells/cu mm, predominantly polymorphs, protein 120 mg/dl and sugar 10 mg/dl. CSF CRP was negative, and so was the culture. The baby was put on cefotaxime and amikacin, but did not respond. Subsequently repeat CSF showed a polymorph count of 6,000 cells/cu mm with Gram negative bacilli. Culture grew *Salmonella typhi*. Antibiotics were changed to ceftriaxone and netilmicin and the patient temporarily improved clinically, though the cell count did not subside below 200 and the protein remained at 100 mg/dl. Ciprofloxacin was then added as an infusion. An ultrasonography (USG) of the brain showed hydrocephalus and brain abscess on the 12th day. A tap was performed and the pus grew *salmonella typhi*, which showed resistance to ampicillin, cotrimoxazole and sensitivity to cefotaxime, ceftriaxone, and ciprofloxacin. A repeat USG showed re-accumulating brain abscess with clinical evidence of raised intracranial tension. The child rapidly deteriorated and died on the 20th day.

Salmonella infections are not all that uncommon as stated by the authors (1). The incidence in the first month of life is estimated by the "Centers for Disease Control and Prevention" to be approximately 75 per 1,00,000 live born infants(2). The increased risk of Salmonella infections in neonates has been related to gastrointestinal factors including both hypochlorhydria and rapid emptying of the stomach which are normal for this age group (2). Infection is related to large inocula, virulence and the role of phages that induce toxigenic factors(3). An early onset of symptoms may not always be related to a maternal source. Hematochezia is perhaps the most common presentation of salmonellosis on the 1st day of life(4).

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3. Helminth R, Stephan R, Bunge C, *et al*. Epidemiology of virulence associated plasmids and outer membrane protein patterns within seven salmonella serotypes. *Infect Immun* 1985, 48:175-182.
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Reply

We appreciate the interest in our report on typhoid fever in a neonate(1). The intent was to draw attention to the rarity of this condition in newborns, a point which is contested by the authors. To support their view, the authors have stated that the incidence of salmonellosis is approximately 75/100000 infants in the first month of life. However, this figure; estimated by the Center for Disease Control(2), reflects the combined incidence of both non-typhoidal as well as typhoidal salmonellosis in neonates, and not of *S. typhi* infection alone. It is well known that non-typhoidal salmonellosis is much more common than typhoid fever in the first month of life. Many epidemics of non-typhoidal *Salmonella* infection have been reported in nurseries, including one reported by us(3). On the other hand, only isolated reports are found in the literature of typhoid fever in the newborn period. This is despite the fact that typhoid fever is widely prevalent in India and other developing countries. The rarity of typhoid fever in the neonatal period has also been emphasized by other workers (4,5). It is of interest to note that in a recent report (6) all three cases of typhoid fever in neonates were born to Pakistani immigrant mothers. With the emergence of multi-drug resistant

S. typhi, we may encounter this organism more frequently in the neonatal period.

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NOTES AND NEWS

IAP PEDIATRIC NEPHROLOGY — TAMILNADU CHAPTER SECOND NATIONAL PRIZE EXAMINATION IN PEDIATRIC NEPHROLOGY

This examination for postgraduates will be held on 8th June, 1996 at 11 a.m. at the Institute of Child Health and Hospital for Children, Halls Road, Egmore, Madras 600 008. The last date for registration is 31st May, 1996. For further information contact: Dr. V. Tamilarasi, Head of the Department of Nephrology, Department of Pediatric Nephrology, Institute of Child Health and Hospital for Children, Halls Road, Egmore, Madras 600 008. *Phone:* Res. 4822377; Off. 8251135.