Brief Reports

Neonatal Shigellosis

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Although the incidence of shigellosis has decreased worldwide, it was quite a common infection in the past. The incidence of shigellosis in infancy varied in different countries from 13 to 65%. In India, the reported incidence is 10.5 to 15%(1). However, neonatal shigellosis has been an uncommon disease(2), even in highly endemic areas. In a review of 1000 cases of shigellosis only 19 infants younger than 2 months were found(3). This striking absence of shigellosis amongst neonates is puzzling inspite of their remarkable susceptibility to other enteropathogens like *E. coli* and *salmonella* species(4). Since 1901, the number of cases of neonatal shigellosis still totals less than 90(5). We are reporting a case of neonatal shigellosis because of its rarity(6).

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Case Report

A 28-day-old female infant was admitted with history of loose stools without mucus or blood for 3 days, with fever and refusal of feeds for 2 days. There was no history of vomiting. The baby was a 36 weeks preterm weighing 1.8 kg at birth and was delivered in a private hospital. The baby's mother had no history of diarrhea. The neonate was being bottle fed since birth. At admission the neonate was afebrile, moderately dehydrated and weighed 1.75 kg. She improved after rehydration and systemic antibiotics and was discharged after 7 days. Investigations showed a total leucocyte count of 13600/mm^3; DLC-P40, L54, E6; bands 25%. Stool microscopy yielded 2-3 pus cells/HPF. Stool culture had a mixed growth (*i*) *Shigella flexneri*–sensitive to furazolidine, kanamycin, gentamicin, nalidixic acid; resistant to chloromycetin, tetracycline, ampicillin; (*ii*) *Salmonella typhimurium*–sensitive to tetracycline and resistant to chloromycetin, gentamicin, kanamycin, ampicillin.

Discussion

Neonatal shigellosis is a rare disease. *Shigella flexneri* is twice as common as *Shigella sonnei* in newborns. In many cases of shigellosis acquired during hospital stay, the source of infection has been traced to the mother. However, active maternal shigellosis at the time of delivery is not always followed by illness in the newborn(5). Nursery associated outbreaks of shigellosis are rare(7). Transmission of the disease to

a neonate via milk or other foods has not been definitely proven. The rarity of the disease in newborns remains unexplained inspite of high gastric pH and absent secretory IgA in newborns compared to older children and adults. Even in epidemics and massive cross infection in hospital, neonates are spared(8).

Fewer than 50 cases have been described in sufficient detail to permit an analysis of their clinical findings(5). The signs and symptoms ranged from asymptomatic carrier state to severe explosive bloody diarrhea or meingitis and sepsis in the absence of diarrhea. In most cases, the onset of symptoms was in the first week. Vomiting was not a prominent feature. High fever, meningismus, respiratory symptoms and convulsions were not observed in neonatal shigellosis.

It should be emphasized that the isolation of shigella from a stool specimen does not necessarily eliminate the possibility of concurrent infection with other enteric pathogens(9). There are numerous reports of mixed infections with *Shigellae* and *Salmonellae* or enteropathogenic *E. coli* and in some cases these have caused clinical disease more severe than might be expected from shigella infection aloine(8,9). Occasionally *Shigellae* have become apparent in stool cultures only after therapy with oral antibiotics for another illness reduced the enteric microflora sufficiently to permit their growth. The epidemiological importance of recognizing such mixed infections among newborns, particularly when such infections are acquired in nursery is apparent(9). Almost 25-95% of *Shigellae* are resistant *in vitro* to ampicillin, tetracycline and streptomycin. Drug resistence to these is often mediated by R-factor(10).

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