Letters to the Editor

Sir,

**Cerebral Palsy in Benin City, Nigeria**

The overall incidence of cerebral palsy in Western countries remains fairly stable at between 1.5 and 2.5 per 1000 live births.\(^1\) A comprehensive analysis indicated that in the majority of cases of cerebral palsy causative factors could not be identified.\(^2\) Babies who fail to cry vigorously at birth and subsequently develop cerebral palsy may have suffered from an adverse genetic constitution or an unfavourable intra-uterine environment.

There is no doubt that in developing countries, the incidence of cerebral palsy is much higher and potentially preventable causes, especially perinatal ones, are much more common.\(^3\)

In Nigeria it was found that kernicterus was the commonest cause\(^4\) and 20 years later there was no change, kernicterus still being responsible for 41 per cent of cases, with birth asphyxia second at 20 per cent.\(^5\)

In Benin City, the Paediatric Neurology Clinic of the University of Benin Teaching Hospital was started in 1979. By the end of July 1992, 225 cases of cerebral palsy had attended. The commonest cause was kernicterus, which, together with birth asphyxia, accounted for 49 per cent. In third place, at 13 per cent, were meningitis and encephalitis; in two infants the initial symptoms had occurred within 10 days of the first DPT vaccination given at the age of 3 months. No other instances of post-encephalitic cerebral palsy were seen under the age of 1 year, and in these two children, pertussis vaccine was thought to have been the causative factor.

In Benin City, most babies are born in hospitals or maternity clinics. In the absence of complications, discharge within 48 or even 24 h is usual. By the time the mother notices jaundice and returns to the hospital kernicterus may have set in, and is unaffected by exchange blood transfusion after referral to the Teaching Hospital.

Concerning birth asphyxia, prolonged labour before or after arrival at hospital, or delivery on the way to hospital, may be responsible. In the Benin area, babies born at home who fail to cry vigorously are not resuscitated by birth attendants or relatives. It is difficult to judge whether they are more likely to fail to recover or to survive with cerebral palsy.

It is clear that little has been achieved over the years to reduce the preventable causes of cerebral palsy in Nigeria.

R. M. Sykes
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**Treatment of Multidrug-resistant Typhoid Fever**

The emergence of multidrug resistant *Salmonella typhi* (MDRST) in the Indian subcontinent in recent times\(^1\)\(^-\)\(^4\) has posed a therapeutic challenge, particularly in children. Although various drugs have been advocated,\(^5\) choice is often not easy. The present communication is on the resistance pattern of *S. typhi* and therapeutic response in 55 patients with typhoid fever, aged 9 months to 13 years, diagnosed by positive Widal test and/or blood culture.

Blood culture grew *S. typhi* in 35 (64 per cent) cases. The isolates were resistant to commonly used drugs like ampicillin (91 per cent), chloramphenicol (69 per cent), trimethoprim (69 per cent), furazolidone (44 per cent) and amoxycillin (38 per cent). Some of the strains were also resistant against cefotaxime (21 per cent), ceftriaxone (12 per cent), ciprofloxacin (13 per cent) and gentamicin (9 per cent). Thirty-four of 35 (98 per cent) isolates were multidrug-resistant. The most common three drug combinations viz. chloramphenicol + ampicillin + trimethoprim showed resistance in 16 (46 per cent) cases and two drugs combinations viz. chloramphenicol + ampicillin in 21 (60 per cent) or chloramphenicol + trimethoprim in 16 (46 per cent) patients, respectively.

The patients were given different drugs regimes (Table 1) and 49 of 55 (89 per cent) patients showed clinical response to initial treatment. Of the six non-responders, five were treated with ciprofloxacin and one with ceftriaxone with a 100 per cent cure rate and similar recovery period.

The treatment of typhoid fever in children has become an increasingly difficult problem due to the very high incidence of MDRST, as seen in our series. It appears that conventional antibiotics can no longer be recommended now as first line drugs in typhoid fever. However, we have observed a satisfactory

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**References**


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therapeutic response (80 per cent) with combination of co-trimoxazole and furazolidone, which is similar to the finding of Mishra et al., indicating an alternative therapy for such patients. The encouraging clinical response despite low sensitivity against these drugs might be due to difference between in vitro and in vivo sensitivity.

The third generation cephalosporins (cefotaxime and ceftriaxone) and ciprofloxacin have been recommended for therapy of multidrug-resistant typhoid fever in children. The problems of parenteral administration and high costs limit the use of these cephalosporins in most cases. Ciprofloxacin is effective, cheaper, and previous reports showed 100 per cent sensitivity, but the recent emergence of resistance to this drug also warrants its judicious use. Ciprofloxacin should be reserved for severe complicated multidrug-resistant cases of typhoid fever.

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References

Sir,

Stool microscopy and culture to assist the diagnosis of pulmonary tuberculosis in childhood

*M. tuberculosis* can be grown from the stool of adults with pulmonary tuberculosis (PTB) and the advent of AIDS and its concomitant atypical infections has again focused attention on the diagnostic possibilities of this investigation. The suggestion has been made that stool culture and microscopy for *M. tuberculosis* might be of value in the diagnosis of childhood tuberculosis.

Seventy-six children were investigated who were suspected of having respiratory tuberculosis. Two successive early morning gastric aspirates were collected and the radiometric Bactec® method was used for isolation of *M. tuberculosis*. Two stools from each child were combined and processed as previously described for the detection of mycobacteria. Positive cultures were tested for acid fastness by Ziehl–Neelsen staining and subcultured onto Lowenstein–Jensen medium for identification. Laboratory personnel were unaware of the clinical status of the children.

Of the 76 children initially suspected of suffering from PTB, 14 were subsequently thought not to have PTB following a satisfactory response to treatment and in the light of results of blood cultures and other investigations. The results of investigations in the remaining 62 children are summarized in Table 1. The poor results tabulated for Mantoux testing are because of many children failing to return for reading of the test after completion of other investigations.

Our results indicate that stool culture for *M. tuberculosis* and microscopy for AFB is considerably less sensitive than culture of gastric aspirate as a means of confirming the diagnosis of PTB in childhood.

Microscopy of stool specimens for AFB has been considered 'worthless' as AFB may be found in normal intestinal contents and certain mycobacterial species have been frequently isolated from the stools of healthy adults. However, even when mycobac-

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Patients treated (no.)</th>
<th>Patients responded (no.)</th>
<th>Period of defervescence (days) Mean ± SD Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-trimoxazole + furazolidone</td>
<td>15</td>
<td>12 (80%)</td>
<td>6.2 ± 2.0 3–10</td>
</tr>
<tr>
<td>Amoxycillin + Gentamicin</td>
<td>7</td>
<td>4 (57%)</td>
<td>5.3 ± 1.7 3–7</td>
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<tr>
<td>Ciprofloxacin</td>
<td>30</td>
<td>30 (100%)</td>
<td>5.4 ± 2.2 3–10</td>
</tr>
<tr>
<td>Cefotaxime</td>
<td>2</td>
<td>2 (100%)</td>
<td>6.0 ± 1.0 5–7</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>1</td>
<td>1 (100%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>49 (89%)</td>
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