However, estimates of the magnitude vary considerably. For example; in Bangladesh\(^5\) PD morbidity rates range from 0.6 to 0.8%, in Guatemala a PD annual rate of 0.014/100 children was reported\(^6\) and in India, Vietnam\(^7\) and Zimbabwe\(^8\) reported rates were 6.3, 5.3 and 6.0%, respectively.

This study was carried out from May through September, 1993, the months of greatest incidence of diarrhea to support and orient the activities of the Mexican Diarrhea Program. The reported prevalence of PD was obtained from a national representative cross-sectional household survey (methods published elsewhere\(^9\)) of children less than 5 years of age. Of the 29,335 houses visited, in 7,504 households at least one child younger than 5 years of age was found (N = 10,700 children).

Of the 10,700 children 1034 had diarrhea (defined as more than 3 liquid evacuations during 24 hours with or without blood) at the time of interview (prevalence rate, 9.6/100 children). Of these, 19 had PD (defined as diarrhea for more than 14 days), a prevalence rate of 0.8/children with diarrhea. Ages of children with PD ranged from 3 to 53 months (mean value, 22 months). The median length of diarrhea episodes was 24 days ± 6.7; range from 14 to more than 30 days (PD episode was determined considering outset, end and interview dates). The highest frequency was found in the 1 to 2-year-old group (36.8%) and in males (78.9%).

All 19 mothers of children with PD knew the recommended electrolyte solutions to use from information given by the Mexican Diarrhea Program and 75% used it during the episodes of diarrhea. In most cases oral rehydration solution was administered for more than 30 days (PD episode was determined considering outset, end and interview dates). The representative cross-sectional household survey (methods published elsewhere\(^9\)) of children less than 5 years of age. Of these, 19 had PD (defined as diarrhea for more than 14 days), a prevalence rate of 0.8/100 children with diarrhea. Ages of children with PD ranged from 3 to 53 months (mean value, 22 months). The median length of diarrhea episodes was 24 days ± 6.7; range from 14 to more than 30 days (PD episode was determined considering outset, end and interview dates). The highest frequency was found in the 1 to 2-year-old group (36.8%) and in males (78.9%).

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**ALCALIGENES XYLOSOXIDANS-ASSOCIATED INFECTION IN AN INFANT WITH CHOLESTEATOMA**

To the Editors:

_Alcaligenes xylosoxidans_ is emerging as an important nosocomial pathogen, predominantly among immunocompromised patients. We report on, to our knowledge, the first case of _A. xylosoxidans_ chronic otitis media with cholesteatoma in a nonimmunocompromised child.

In January, 1994, a 6-year-old girl was referred to the Robert Debré Pediatric University Hospital in Paris for otalgia and otorrhea. She also complained of headache and vertigo. Examination revealed a purulent discharge in the right external auditory canal and a right-sided otitis media. The discharge persisted despite various antibiotic therapies including local colistin and two 10-day courses of oral amoxicillin-clavulanate (50 mg/kg/day). She complained of an increasing postauricular pain and returned in April, 1994, for further investigation. On admission otoscopic examination revealed a stenotic right external auditory canal. Medial to the stenosis was a massive cholesteatoma with obliteration of the middle ear. The cholesteatoma was treated by surgical excision. Cholesteatoma was confirmed histologically. The patient recovered after 7 days of treatment with intravenous piperacillin (300 mg/kg/day). Culture of the ear discharge in January and then pre- and postoperatively in April showed heavy growth of Gram-negative microorganisms on nutrient agar. It was identified as _A. xylosoxidans_ subsp. _xylosoxidans_ using API 20 NE (Profile No. 1042477). Sensitivity to antimicrobials was determined by the disk diffusion method. The organism was susceptible to ticarcillin, piperacillin, ticarcillin plus clavulanic acid, ceftazidine and imipenem but was resistant to cefsulodine, cefotaxime, amoxicillin-clavulanate, aztreonam, pefloxacin, ciprofloxacin and aminoglycosides.

The three isolates obtained from our patient were compared with six unrelated isolates by the randomly amplified polymorphic DNA (RAPD) method. _A. xylosoxidans_ was subcultured overnight at 30°C on trypticase agar plates. A single colony was inoculated into brain-heart infusion broth and grown overnight at 30°C. Cells were pelleted by centrifugation and washed in saline; after further centrifugation the supernatant was discarded and the cell pellet was resuspended in distilled water at OD<sub>600 nm</sub> 1. This suspension was used in the amplification reaction. The polymerase chain reaction primer 5'-GCC CCC AGG GGC ACA GT-3' was used for the RAPD procedure adapted from the procedure of Williams et al. The amplification procedure was done as reported previously. The three isolates obtained from our patient exhibited indistinguishable patterns (Fig. 1, Lanes 3 through 5). The six epidemiologically unrelated isolates produced distinct pattern (Lane 2 and Lanes 6 through 10). Before the current study RAPD analysis had not been applied to the study of _A. xylosoxidans_ isolates in pediatric patients.

_A. xylosoxidans_ (formerly _Achromobacter xylosoxidans_) is a nonfermentative Gram-negative bacterium. The organism is isolated from a wide variety of aquatic environmental sources. This microorganism is generally considered innocuous in clinical settings; however, during the last decade a number of sporadic cases of human infections caused by this organism have been reported. Colonization and/or infection occur in immunocompromised patients through contaminated water, antiseptic solutions, materials or wet surfaces. _A. xylosoxidans_ has been described as the etiologic agent in cases of catheter-associated infection in an infant, meningitis and bacteremia. _A. xylosoxidans_ has not been reported previously as a pathogen in chronic ear discharge with cholesteatoma.

The pathogenic character of an opportunistic organism is related to the persistence of the same clinical strain when several samples were cultured. Until recently epidemiologic studies of _A. xylosoxidans_ have been based essentially on the study of phenotypic traits. However, none of these methods has been found to be really satisfactory for the typing of _A. xylosoxidans_ because of the insufficient discrimination, poor reproducibility or lack of availability of

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**TABLE 1. Serologic Investigations**

<table>
<thead>
<tr>
<th>Time after Onset of Febrile Convulsion</th>
<th>CMV</th>
<th>EBV-VCA</th>
<th>HHV-6</th>
<th>HSV</th>
<th>VZV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 3</td>
<td>IgG (AU)</td>
<td>IgM</td>
<td>IgA</td>
<td>IgG</td>
<td>IgM</td>
</tr>
<tr>
<td>Day 9</td>
<td>Neg</td>
<td>Neg</td>
<td>Neg</td>
<td>1:8</td>
<td>1:10</td>
</tr>
<tr>
<td>4 months</td>
<td>92</td>
<td>Neg</td>
<td>Neg</td>
<td>1:8</td>
<td>1:10</td>
</tr>
</tbody>
</table>

Neg, negative; NT, not tested; CMV, cytomegalovirus; EBV, Epstein-Barr virus; VCA, viral capsid antigen; HSV, herpes simplex virus; VZV, varicella-zoster virus; AU, arbitrary units.

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**Fig. 1. A. xylosoxidans** DNA fingerprinting by Random PCR. 
Lane 1, size marker; Lane 3, January ear isolate; Lane 4, preoperative ear isolate; Lane 5, postoperative ear isolate; Lane 2 and Lanes 6 through 10, epidemiologically unrelated isolates. kb, kilobases.