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LETTER – TO – THE – EDITOR

Vibrio mimicus Bacteraemia in a Child

Sir,

Vibrio mimicus is a member of the family *Vibrionaceae* and has been associated with gastrointestinal illnesses and ear infections (1). We describe here a child with *V. mimicus* bacteremia, which to our knowledge, has not been previously reported.

A four – month – old undernourished girl (57% weight for age of National Center for Health Statistics median) was admitted to the Clinical Research Centre of the International Centre for Diarrhoeal Disease Research, Bangladesh, with a history of watery stools >8 times a day for 6 days. She did not have vomiting or fever. On admission, there was clinical suspicion of sepsis as indicated by poor peripheral perfusion, dehydration, lethargy and confusion. Blood was drawn for culture on admission which grew *V. mimicus* as identified by standard methods (1). The organism was susceptible to ampicillin by disk diffusion method. Microscopic examination of stool revealed plenty of neutral fat, but no white blood cells, ova and parasites. Her chest X – ray showed no abnormality. On admission the patient was rehydrated with oral rehydration solution and parenteral ampicillin was given (150 mg every 6 h, total 24 doses). A second blood culture done the next day grew a *Pseudomonas* spp. which was susceptible to gentamicin. Treatment with parenteral gentamicin (6 mg every 8 h, total 20 doses) was started on the second day of admission. A rectal swab culture done 6 days after admission grew *Vibrio cholerae* 01 El Tor Ogawa, which was identified by standard methods (1), and the isolate was susceptible to ampicillin by disk diffusion method. On the sixth day, the patient developed signs of paralytic ileus and was managed with fluids and nasogastric suctions, and parenteral metronidazole was given in addition. On the same day the patient was taken away from the hospital by the parents against medical advice and further clinical follow – up could not be made.

The *V. mimicus* isolate was tested for heat – labile enterotoxin production by Y – 1 adrenal tumor cell assay (2), heat – stable toxin by suckling mouse assay (3) and cytotoxin by HeLa cell assay (4). The testing material was a cell – free culture filtrate after overnight growth of the organism at 37 °C in brain – heart infusion broth (BHI) (Difco, Detroit, MI), supplemented with 0.5% NaCl. The organism did not produce any toxin. The ability to produce toxin by *V. mimicus* spp. has been reported to be variable (1,5). The invasive ability of the organism was tested by Sereny test (6) and Henle – 407 cell assay (7) with overnight growth of the organism at 37 °C in BHI. The organism did not produce keratoconjunctivitis in Sereny test, but invaded Henle cells in culture. The concentration of intracellular bacteria in Henle cell assay was 1.3×10^4 per ml as compared with 0 for a control stool isolate and a water isolate of *V. mimicus* strains.

The clinical picture suggested that the patient had an acute watery diarrhoea with septicaemia. Since stool culture was not done immediately after admission, it is difficult to say whether intestinal infection with *V. mimicus* preceded bacteraemia. We think that the *V. cholerae* 01 bacterium was the cause of watery diarrhoea in this patient. The presence of polymicrobial sepsis in our patient might be a reflection of the altered host immunity in a malnourished state.

There are no previous studies on the invasive property of *V. mimicus*. The blood isolate consistently invaded Henle – 407 cells as against the stool and environmental isolates. This might suggest that some strains of *V. mimicus* may be invasive. Further studies are required to characterise the invasive potential of *V. mimicus*.

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M John Albert
I Kabir
PKB Neogi
AKMG Kibriya

Laboratory Sciences Division, International Centre for Diarrhoeal Disease Research, Bangladesh, GPO Box 128, Dhaka 1000, Bangladesh