

Emergence of *Vibrio cholerae* Serotype Hikojima in Northern Tamil Nadu

Sir,

In 2009, a total of 155 stool samples were collected from patients suffering from cholera like illness. 13 isolates of *Vibrio cholerae* were obtained. They were identified, biotyped and serotyped by standard procedures.

All the 13 *Vibrio cholerae* O1 isolates were of El Tor biotype, and serotype Hikojima. No other serotypes were found in this study. The serotype Hikojima is known to be very unstable, and has been demonstrated to interconvert and undergo serotype switching.⁽¹⁾ So the study reflects the importance of close monitoring and surveillance of the prevalent serotype.

Out of the 13 isolates first case was reported in Feb 2009. Maximum of 4 cases were reported in August 2009. Among the 13 isolates most of the patients were from Vellore and the rest from neighbouring towns. Males (61.53%) were more affected than females (38.45%). All

the cholera cases were in the pediatric age group (1 to 10 years). More cases were seen in the age group less than 2 years (38.46%). This was similar to previous studies from other parts of the country which showed that the infection rate of cholera is increasingly reported in children.⁽²⁾

The antibiogram [Table 1] of 13 isolates showed 100% resistance to cotrimoxazole and nalidixic acid. However the sensitivity to ampicillin was variable, 46% isolates were highly sensitive, 31% showed moderate sensitivity and 23% showed resistance to ampicillin. This correlated with earlier studies^(3,4) that reported resistance of *Vibrio cholerae* isolates to ampicillin, cotrimoxazole and nalidixic acid.

Although ciprofloxacin resistance has been reported in India^(3,4) in case of *Vibrio cholerae* O1 El Tor Ogawa, Hikojima strains isolated at our place were found to be 100% sensitive to ciprofloxacin in accordance with study by Neelam Taneja *et al.*⁽⁵⁾ All the 13 isolates were sensitive

Table 1: Sensitivity pattern of *Vibrio cholerae* isolates n=13

Antibiotics	Sensitive	Resistant
Ampicillin	6 (45 HS), 4 (31 MS)	3 (23)
Amoxycillin	13 (100)	Nil
Amikacin	13 (100)	Nil
Azithromycin	13 (100)	Nil
Cotrimoxazole	Nil	13 (100)
Ciprofloxacin	13 (100)	Nil
Chloramphenicol	13 (100)	Nil
Cefotaxime	13 (100)	Nil
Doxycycline	13 (100)	Nil
Gentamicin	13 (100)	Nil
Nalidixic acid	Nil	13 (100)
Tetracycline	13 (100)	Nil

Figures in parenthesis are in percentage

(100%) to azithromycin.

Previously ciprofloxacin, doxycyclin and tetracyclin were used as first line drugs in treatment of cholera. These drugs are not used in children due to their side effects. In present study only children were affected so azithromycin which showed 100% sensitivity could be used effectively and safely as the drug of choice in children to treat cholera.^(6,7)

Acknowledgment

We are very grateful to Dr. R. Manjula, who was then Head of the Department of Microbiology and the Vice Principal of the Govt. Vellore Medical College, Vellore. She had been a great source of inspiration for this work to be carried out. We also would like to thank Mrs. Jayalakshmi our lab technician who was always with us in all the work that was done.

**C Chandralekha, Gowri Veligandla,
R Vanaja**

Department of Microbiology, Government Vellore

Medical College, Tamil Nadu, India
E-mail: drgowri_2k@yahoo.co.uk

Received: 05-05-2010

Accepted: 24-05-2011

References

1. Stroehner UH, Karageorgos LE, Morona R, Manning PA. Serotype conversion in *Vibrio cholerae* O1. Proc Natl Acad Sci USA 1992;89:2566-70.
2. Slathia P, Bansal MP. Incidence of *Vibrio cholerae* in different age groups and sex in Aurangabad province isolated during January 1994 to December 1994. Indian J Med Sci 1999;53:349-51.
3. Mukhopadhyay AK, Basu I, Bhattacharya SK, Bhattacharya MK, Nair GB. Emergence of fluoroquinolone resistance in isolates of *Vibrio cholerae* O1 Biotype El Tor Serotype Inaba in North India. Jpn J Infect Dis 2005;58:238-40.
4. Chander J, Kaistha N, Gupta V, Mehta M, Singla N, Deep A, et al. Epidemiology and antibiograms of *Vibrio cholerae* isolates from a tertiary care hospital in Chandigarh, north India. Indian J Med Res 2009;129:613-7.
5. Taneja N, Biswal M, Tarai B, Sharma M. Emergence of *Vibrio cholerae* O1 Biotype El Tor Serotype Inaba in North India. Jpn J Infect Dis 2005;58:238-40.
6. Bhattacharya MK, Dutta D, Ramamurthy T, Sarkar D, Singharoy A, Bhattacharya SK. Azithromycin in the treatment of cholera in children. Acta Paediatr 2003;92:676-8.
7. Khan WA, Saha D, Rahman A, Salam MA, Bogaerts J, Bennish ML. Comparison of Single-dose azithromycin and 12-dose, 3-day erythromycin for childhood cholera: A randomised, double-blind trial. Lancet 2002;360:1722-7.

Access this article online

Quick Response Code:



Website:

www.ijcm.org.in

DOI:

10.4103/0970-0218.84142