

## Therapeutic considerations in non-o1/o139 vibrio cholera infections

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### Abstract

**Introduction:** *Vibrio cholerae* is a highly diverse species.

Whereas almost all cholera-causing strains fall in the serogroups O1 & O139, outbreaks of potentially fatal 'cholera-like illnesses' have been reported in estuarine environments in multiple parts of the world with lesser known non-O1/non-O139 serogroups. Phylogenetic studies suggest that all cholera-associated strains tend to cluster closely together in keeping with the concept that the outbreak of an epidemic illness requires the presence of an 'epidemic genotype' that comprises of multiple genes coming from a host of serogroups.

**Method:** A comprehensive search of PubMed & EMBASE from their inceptions to October 2019 was made using 3 search items: non-O1/non-O139 *Vibrio cholerae*, cholera outbreaks, & heat wave-associated vibriosis. The search items were combined using the Boolean operator.

**Results:** Mild gastroenteritis in immunocompetent patients often requires nothing more than fluid resuscitation (oral or intravenous depending upon the need). In severe diarrhoeal illnesses, however, empirical antibiotic therapy with doxycycline is known to reduce the duration of the illness & is therefore recommended pending susceptibility testing results. Alternatives include macrolides & fluoroquinolones. Wound infections even when mild require both debridement & empirical antibiotic therapy with tetracycline or macrolide for 5-7 days.

**Conclusion:** In immunocompetent patients, diarrhoeal illness is often mild & self-limiting. Likewise, wound infections generally respond well to debridement & oral antibiotic therapy in immunocompetent patients. Immunocompromised patients or those with severe underlying liver disease, however, are at most risk of death and therefore require aggressive treatment in ICU settings. Given increasing rates of resistance to antibiotics, susceptibility testing should be performed to rationalize antibiotic selection in all cases.



### Biography:

Fazal-e-Rabi Subhani is currently working as a Pedestrian at The Rotunda Hospital in Rotunda, Dublin, Ireland. He has done various publications and research works in the fields of infection.

### Speaker Publications:

1. Haley BJ, Choi SY, Grim CJ, et al. Genomic and phenotypic characterization of *Vibrio cholerae* non-O1 isolates from a US Gulf Coast cholera outbreak. *PLoS One* 2014; 9:e86264.
2. Crowe SJ, Newton AE, Gould LH, et al. Vibriosis, not cholera: toxigenic *Vibrio cholerae* non-O1, non-O139 infections in the United States, 1984-2014. *Epidemiol Infect* 2016; 144:3335.
3. Aydanian A, Tang L, Chen Y, et al. Genetic relatedness of selected clinical and environmental non-O1/O139 *Vibrio cholerae*. *Int J Infect Dis* 2015; 37:152.
4. Baker-Austin C, Trinanes JA, Salmenlinna S, et al. Heat Wave-Associated Vibriosis, Sweden and Finland, 2014. *Emerg Infect Dis* 2016; 22:1216.

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