Use of antibiotics for cholera

Use of antibiotics for the treatment of cholera

Rapid and appropriate rehydration is the main management intervention for treating cholera cases, either orally for moderate cases, or intravenously for severe cases.

Appropriate antibiotics can reduce the volume of diarrhoea due to cholera, reduce the volume of rehydration fluids needed, and shorten the duration of *V. cholerae* excretion. The current WHO recommendation is to give antibiotics only to cholera cases with severe dehydration. Children under 12 years of age should be given a 3-day course of erythromycin (12.5 mg/kg – 4 times a day). Children under 5 years of age should also be given zinc for 10 days (10 mg per day under 6 months, 20 mg per day above 6 months). For older children and adults, a 3-day course of tetracycline (12.5 mg/kg – 4 times a day) or a single dose of doxycycline (300 mg) is recommended.

Careful and regular laboratory monitoring of the antibiotic sensitivity of circulating strains is recommended in all settings, including during an outbreak, to guide treatment. O1 and O139 *Vibrio cholerae* strains that are resistant to antibiotics such as cyclines and quinolones have been isolated from all regions.

Antibiotic prophylaxis for the prevention of cholera

The wide-scale use of antibiotics encourages selection and spread of antibiotic-resistant pathogenic bacteria. Two aspects should therefore be considered: (i) the risk that antibiotic resistant strains of *V cholerae* may emerge; (ii) the risk that other organisms may develop resistance, compromising the use of that antibiotic in the management of other infectious diseases. Antibiotic resistance in *V cholerae* O1/O139 is well documented, together with conclusions that the use of antibiotics for cholera has contributed to the spread of such resistance. Rapid development of resistance to tetracycline and doxycycline has been observed when these antibiotics were used on a large scale for prophylaxis during cholera outbreaks in Africa in the 1970s and 1980s, and in South America in the 1990s. WHO has previously stated that “mass antibiotics prophylaxis is not recommended because it has not been shown to be effective and because it contributes to the emergence of resistance.”

Selective prophylaxis of household contacts of cholera cases (i.e. considered at high risk of being infected with *V cholerae*) has been implemented in the past with difficulties related to the identification of contacts, timely delivery of drugs, non-compliance and side effects. A recent literature review concluded that this strategy may have a protective effect among household contacts of people with cholera but impact on cholera transmission could not be demonstrated.

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2 Antimicrobial resistance in shigellosis, cholera and campylobacteriosis. WHO/CDS/CSR/DRS/2001.8
Overall, there is no evidence that the provision of antibiotics such as doxycycline to staff or travelers coming from cholera endemic transmission areas (i.e. considered at risk of being infected with / carriers of *V cholerae*) before travel would decrease or prevent the risk of cholera introduction into non-endemic countries. An antibiotic prophylaxis strategy would contribute to the emergence of resistance and provide a false sense of security⁴. Moreover, Doxycycline is the treatment of choice for several diseases of global health importance, and a useful clinical option for a variety of other infections. It is affordable, available, and has features of stability which add to its utility in low and middle income countries. A policy which compromised this vitally important therapeutic option in order to obtain a doubtful outcome would be difficult to defend.

Antibiotic prophylaxis specifically targeting carriers of *V cholerae* would require the systematic screening of people. However, no effective (sensitive and specific) screening methods for carriers are currently available, and such measures would likely be costly, difficult to implement and ineffective in detecting carriers of *V cholerae*.

WHO does not advise requiring prophylactic administration of antibiotics or proof of such administration for travellers coming from or going to a country affected by cholera.

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⁴ PAHO/WHO Expert Consultation on Pharmacological Measures for Prevention of Cholera Introduction in Non endemic Areas. PAHO/HSD/IR/A/00112