Drug Sensitivity Pattern of Cholera in Children

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Abstract

Objective: To study the drug sensitivity pattern of cholera in children.
Setting: DTU of Civil Hospital, Karachi.
Patients and Methods: All children age 2 months to 15 years attending Diarrhoea Treatment Unit (DTU) with acute onset of diarrhoea and dehydration were screened for cholera. Stool samples were collected in alkaline peptone and those positive for cholera had their antibiotic sensitivity determined.
Results: Of 846 stool specimens, 161 were positive for V.Cholera. All were sensitive to third generation cephalosporins and quinolones, 98-100% to Nalidixic acid, 82-86% to chioramphenicol and 67-75% to doxycycline and all were resistant to cotrimaxazole.
Conclusion: Cholera can be treated with Nalidixic acid or Chloramphenical in young children while doxycycline for older children. Cotrimoxazole is not effective. Efforts should be done for identification and surveillance of cholera cases, along with change of sensivity pattern of vibrio cholera JPMA 52:347, 2002).

Introduction

Cholera is one of the life threatening diarrhoeal diseases. Most cholera infections are mild and patient may even have no symptoms. Cholera should be suspected when a patient is developing severe dehydration from acute watery diarrhoea with vomiting or any child who has acute watery diarrhoea in an area where there is an outbreak of cholera[1].
Serogroup 01 is the dominant cause of cholera. The EL-Tor biotypes have caused almost all of the recent cholera outbreaks. There were epidemics of cholera like disease in India and Bangladesh. The causative organism has been identified as cholera non-Ol labeled as new serotypes. 0139 (synonym Bengal)[1-6].
Cholera is endemic in our country in the form of mini-epidemics recognized time and again in different parts of country. The antibiotic use can reduce the severity, duration and spread of disease.
Using WHO recommended case definition of cholera, cases were selected for culture and drug sensitivity of Vibrio cholera in children attending the diarrhoea treatment unit of Civil Hospital Karachi during the three calendar years (1998-2000).

Patients and Methods

The stool samples of all children between ages of 2 months to 15 years, admitted in diarrhoea treatment unit, during January 1998 to December 2000 were received in alkaline peptone water. All the stool samples were inoculated on Thiosulphate Citrate Bile Sucrose (TCBS)'. Treatment of severe dehydration was given according to WHO protocol with Ringers lactate and antibiotics i.e., Chloramphenicol or Nalidixic acid from two months to eight years of age while older children (more than 8 years) received injectable Doxycline in a single dose for three days.

Discussion

Diarrhoeal diseases constitute a leading cause of morbidity and mortality in children particularly in developing countries. Cholera is one of the most dreaded diarrhoeal diseases affecting man, It causes about 5% of all cases of acute diarrhoea[1]. Periodical emergence of new strains of the causative organism reestablishes itself and disseminates in partially immune population. There were six pandemics of V. Cholera since the early 19th century. The seventh began in 1961 and is still ongoing on. It is caused by the V. cholera-El-Tor toxin producing strain serogroup.

In this study positivity of isolates was almost the same as in previous reports from Karachi, which is attributed to hot and humid season in the monsoon months[2,9].

All specimens were sensitive to third generation cephalosporins and resistant to Cotrimoxazole while sensitivity to Nalidixic acid, Chloramphenicol and Doxycycline varied from 67-86%. Chloramphericol or Nalidixic acid can be used in young and Doxycycline in older children[10].

Specific antibiotic therapy is helpful but it is important that the rehydration guidelines as per dehydration status of acute watery diarrhoea patients must be practiced to avoid fatalities.

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