

INCREASED *Streptococcus pneumoniae* SURVEILLANCE IN LATIN AMERICA, SIREVA-VIGIA GROUP 1999-2002.

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INTRODUCTION

Since 1994, the Pan American Health Organization (PAHO) has coordinated a surveillance network with National Reference Laboratories of Latin American countries aimed at monitoring capsular types and antimicrobial susceptibility of *Streptococcus pneumoniae* causing invasive disease, mainly in the pediatric population.

Considering the availability of a conjugated heptavalent vaccine (PNCrM7), the development of other formulations, and the fact that geographic and age-related differences in the incidence of certain serotypes have been reported world-wide, we present serotype distribution and penicillin and cefotaxime susceptibility of invasive pneumococcal isolates from 15 countries: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

MATERIAL AND METHODS

Funded by PAHO in 1994, the SIREVA-VIGIA Latin American Group now includes more than 15 countries throughout the Region that have joined efforts to perform epidemiological surveillance of invasive pneumococcal disease, mainly in the pediatric population. For this study, we collected data of capsular serotype and penicillin and cefotaxime susceptibility of invasive pneumococcal clinical isolates from 15 countries collected from January 1999 to December 2002. Strains were identified by standard methods and serotyped by Quellung reaction with pooled, type or group and factor sera from Statens Serum Institut, Copenhagen, Denmark. Antimicrobial susceptibility for penicillin and cefotaxime was done by microdilution method according to NCCLS. *S.pneumoniae* ATCC 49619 was included as control strain.

The SIREVA-VIGIA Group counts with the invaluable support from the National Centre for Streptococcus in Edmonton, Canada with an ongoing quality control and assurance program for serotyping and antimicrobial susceptibility tests. Within the Region, 3 sub-regional laboratories: Brazil, Colombia and Mexico, performs quality control for the rest of the participant countries.

For better analysis, countries were separated in 3 regions: Southern region (Argentina, Uruguay, Paraguay, Chile and Brazil), Central region (Colombia, Venezuela, Ecuador, Peru and Bolivia) and Northern region (Dominican Republic, Cuba, Panama, Mexico and Nicaragua).

RESULTS

From January 1999 to December 2002, a total of 8,047 invasive pneumococcal isolates were collected from 15 Latin American countries: Argentina (762), Bolivia (47), Brazil (2345), Chile (1744), Colombia (816), Cuba (284), Dominican Republic (292), Ecuador (28), Mexico (255), Nicaragua (24), Panama (42), Paraguay (535) Peru (55), Uruguay (552) and Venezuela (253). Sixty percent of isolates were from children < 6 years old and the main diagnosis was pneumonia (47%) and meningitis (43%).

Tables 1, 2 and 3 show the most frequent serotypes from children less than 6 years of age, older children and adults and by region, respectively.

Reduced susceptibility to penicillin was detected in 36.3% of isolates from children < 6 years of age with 20.3% as intermediate and 16.0% as full resistant strains as shown in Table 4. Among isolates from children with meningitis, 6.8% showed intermediate resistance and 3.7% were fully resistant to cefotaxime/ceftriaxone with minor differences among different regions as shown in Table 5.

CONCLUSIONS

The comparison between data from 15 Latin American countries and those from the previous period (1993-1998) showed no significant differences in the distribution of pneumococcal serotypes, even though 8 countries have been added to the pneumococcal network.

Significant increases in penicillin resistant (from 28.6% to 36.9%, in 3.2% for intermediate and 5.1% for full resistance) were observed in countries that participated in both surveillance periods.

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