УДК [61+615.1] (043.2)
ББК 5+52.81
А 43
ISBN 978-985-21-1864-4

Al Flitty A.F., Abdl Nour R.K.

STREPTOCOCCUS PNEUMONIAE RESISTANCE TO ANTIBIOTICS IN CHILDREN

Tutor: PhD, associate professor Skepyan E.N.
Department of Clinical Pharmacology
Belarusian State Medical University, Minsk

Introduction. Streptococcus pneumoniae (S. pneumoniae) is a gram-positive bacterium responsible for a number of invasive and non-invasive diseases. The spread of antibiotic resistance is actually known as a serious public health problem. Increased morbidity and mortality have been observed due to pneumococcal disease caused by multidrug-resistant S. pneumoniae.

Objective: in the present study, we aim to determine the antibiotic resistance and multiple drug resistance profiles of S. pneumoniae strains isolated from children in Minsk, Republic of Belarus.

Materials and methods. The sensitivity/resistance of S. pneumoniae was analyzed based on the results of culture of smears from the nose and throat, from the ear canal for flora and sensitivity to antimicrobial drugs in 102 children of different ages treated in the Children's City Infectious Diseases Hospital of Minsk with respiratory tract diseases, otitis in the period from January 9 to September 19, 2024. Smears were collected from children with various diseases: otitis (n = 56), acute respiratory infections (n = 36), pneumonia (n = 8), tonsillitis (n = 2). In the bacteriological laboratory of the Children's City Infectious Diseases Hospital of Minsk, a bacteriological study was carried out using: an apparatus method of serial dilutions, a disk diffusion method with determination of the sensitivity/resistance of S. pneumoniae to antimicrobial drugs.

Results and their discussion. All S. pneumoniae isolates (n=102) were susceptible to Vancomycin and Imipenem. Streptococcus pneumoniae was highly susceptible to Linezolid and Cefotaxime (98.9%), Amoxicillin/Clavulanic acid (97.1%), Ceftriaxone (96.9%), Chloramphenicol (95.7%), Moxifloxacin (94.11%), Levofloxacin (94.3%). Streptococcus pneumoniae susceptibility to Co-trimoxazole was 75%. The highest level of S. pneumoniae resistance was found to Erythromycin (67.3%), followed by Azithromycin (63.9%). The level of resistance of S. pneumoniae exceeding 30% was detected to Tetracycline and Clindamycin (33.3% each, respectively), Penicillin (31.2%).

Conclusion. The priority for choosing antimicrobial therapy is to prescribe drugs with an optimal spectrum of antibacterial activity for a specific patient, taking into account the level of acquired resistance of pathogens in the population, for example, Amoxicillin/Clavulanic acid, second- and third-generation cephalosporins.