ANTIMICROBIAL RESISTANCE OF *Streptococcus Pneumoniae* IN DIFFERENT REGIONS OF RUSSIA: RESULTS OF PROSPECTIVE MULTICENTRE STUDY (phase A of project PeHAS-I)

R.S. Kozlov, O.I. Kretchlkova, O.V. Slvaya, LI. Akhmetova, LA. Vlshnyakova, E.N. Gugutsldze, V.N. Ilylna, LK. Katosova, V.A. Kurchavov, V.B. Kuzln, N.E. Maruslna, E.A. Molodova, I.G. Multykh, A.L Pavlov, A.I. Slnopalnlkov, I.V. Smlrnov, Yu.G. Tlkhonov, M.E. Faustova, V.A. Larchenko, LS. Stratchounskl

Objective. To determine the structure of antimicrobial resistance of clinical isolates of pneumococci in different regions of Russia.

Materials and methods. A total of 210 *Streptococcus pneumoniae* strains isolated in 15 centres of Central (Moscow — 5 centers, Kazan, Nizniy Novgorod, Ryzan), North-Western (Smolensk, St. Petersburg), Southern (Krasnodar) regions, Urals (Ekaterinburg) and Siberia (Novosibirsk, Tomsk) were included in this study. Susceptibility to 19 antimicrobials — penicillin G, amoxicillin, amoxicillin/clavulanate, cefotaxime, cefepime, erythromycin, azithromycin, clarithromycin, midecamycin, midecamycin acetate, spiramycin, clindamycin, tetracycline, ciprofloxacin, levolfloxacin, chloramphenicol, cotrimoxazole, rifampicin and vancomycin — was determined by broth microdilution in accordance with NCCLS recommendations.

Results, β-l^actams sustain high *in vitro* activity against studied population of pneumococci: non susceptibility (percentage of both intermediate and fully resistant isolates) to amoxicillin and amoxicillin/clavulanate was 0,5%, to cefotaxime and cefepime — 2%, to penicillin G — 9%. Resistance to studied macrolides/azalide (erythromycin, azithromycin, clarithromycin, midecamycin, midecamycin acetate, spiramycin) varied from 2 to 6%. Chloramphenicol, clindamycin and rifampicin also sustained high activity (proportion of nonsusceptible strains was 5, 2 and 1% respectively). No resistance to levofloxacin and vancomycin was found. The highest percentage of nonsusceptible isolates (27 and 33% respectively) was determined to tetracycline and cotrimoxazole. Multi-resistance (defined as resistance to 3 and more classes of antimicrobials) was found in 8% of strains.

Conclusions. β-Lactams and macrolides might be recommended as drugs of choice for the therapy of pneumococcal infections. Respiratory fluoroquinolones (levofloxacin) are highly active against pneumococci. High resistance to cotrimoxazole and tetracycline dictates the necessity to limit use of these antimicrobials for the therapy of the above infections.

Key words: *Streptococcus pneumoniae, pneumococci, antimicrobial resistance.*