ANOTHER WHITE SPOT ON THE EUROPE MAP IS GONE: FIRST RESULTS OF THE RUSSIAN MONITORING OF ANTIMICROBIAL CONSUMPTION

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Stratchounski L.S.[1], Bedenkov A.V.[1], Ishmukhametov A.A.[2], Denisova M.N.[2], Abramenko L.P.[2], Gotovats S.G.[2]

[1]Institute of Antimicrobial Chemotherapy, Smolensk, Russia; [2]The Remedium Group of Companies, Moscow, Russia

P.O. Box 5, Smolensk, 214019, RUSSIA
e-mail: str@antibiotic.ru
www.antibiotic.ru

INTRODUCTION AND PURPOSE

Antibiotic resistance is a growing problem worldwide, requiring national and international approaches, and a major reason for this is the extensive use of antibiotics. The joint project of the Institute of Antimicrobial Chemotherapy and The Remedium Group of Companies (TRGC) was established to monitor the patterns of antimicrobial (AM) consumption in Russia with a long term aim to improve prescription habits and reduce antimicrobial resistance.

COUNTRY STATISTICS

Total population: 144,082,000
GDP per capita (Intl $, 2001): 8,486
Life expectancy at birth m/f (years): 58.4/72.1
Healthy life expectancy at birth m/f (years): 52.8/64.3
Child mortality m/f (per 1000): 21/16
Adult mortality m/f (per 1000): 464/168
Total health expenditure per capita (Intl $, 2001): 454
Total health expenditure as % of GDP (2001): 5.4

METHODS

Data on the use of AM in Russia were collected from the national projects Retail Pharmaceutical Market Audit and Hospital Audit that are conducted by TRGC since 2000. The pharmacy and hospital audits are realized in 51 and 27 regions of the Russia, respectively. Imprecision of the data of both audits does not exceed 10%. The final reports contain products' names, Anatomical Therapeutic Chemical classification codes (WHO, version 2004), drug forms, dosages and packages quantity. The use of AM was expressed as the number of defined daily doses (DDD) per 1000 inhabitants per day - DDD/1000 inhabitants/day (DID).

RESULTS

The mean total consumption of AM for systemic use (J01) in 2001-2002 in Russia was 11.9 DID (2001 - 12.0, 2002 - 11.8). The use of tetracyclines (J01A), amphenicols (J01B), beta-lactams, penicillins (J01C), other beta-lactams (J01D), sulfonamides and trimethoprim (J01E), macrolides, lincosamides and streptogramins (J01F), aminoglycosides (J01G), quinolones (J01M), other antibacterials (J01X) was, respectively, in 2001 - 1.88, 0.38, 3.71, 0.30, 1.92, 1.03, 0.99, 1.00, 0.81 DID and in 2002 - 2.12, 0.47, 2.90, 0.41, 1.97, 1.04, 0.81, 1.14, 0.97 DID (fig. 1).

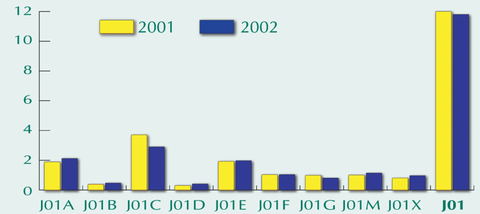

Figure 1. Antimicrobial consumption in Russia, 2001-2002 (DDD/1000 inhabitants/day)

Among J01C group aminopenicillins were prescribed above all (57.4% in 2001, 63.4% in 2002) and their use in 2001 was 2.13 DID and in 2002 - 1.84 DID. From 2001 to 2002 the use of ampicillin decreased from 1.67 to 1.10 DID. However, its oral form was mainly prescribed (2001 - 1.3 DID, 76.5%, 2002 - 0.81 DID, 72.7%). Whereas, the consumption of amoxicillin increased from 0.46 DID in 2001 to 0.74 DID in 2002 (fig. 2).

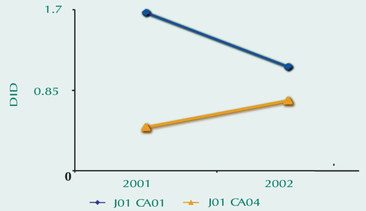

Figure 2. Aminopenicillins consumption in Russia, 2001-2002 (DDD/1000 inhabitants/day)

Cephalosporins use increased from 0.29 DID in 2001 to 0.40 DID in 2002 (tab. 1). Between J01F AM macrolides were the most often prescribed group with 0.84 DID in 2001 (81.6%) and 2002 (80.8%) (tab. 2).

CONCLUSIONS

Data on antibiotic consumption on a country level could be applied for improvement of the usage patterns.

Table 1. Cephalosporins use in Russia, 2001-2002 (DDD/1000 inhabitants/day)

		2001	2002
J01D A01	Cefalexin	0.02	0.02
J01D A03	Cefalotin	0.0009	0.001
J01D A04	Cefazolin	0.17	0.26
J01D A 06	Cefuroxime	0.01	0.01
J01D A07	Cefamandole	0.0004	0.0004
J01D A08	Cefaclor	0.001	0.001
J01D A09	Cefadroxil	0.000004	0
J01D A10	Cefotaxime	0.05	0.06
J01D A11	Ceftazidime	0.003	0.004
J01D A13	Ceftriaxone	0.02	0.02
J01D A23	Cefixime	0	0.0005
J01D A24	Cefepime	0.002	0.003
J01D A25	Cefodizime	0	0
J01D A32	Cefoperazone	0.009	0.02
J01D A39	Ceftibuten	0.0004	0.0004

Table 2. Macrolides use in Russia, 2001-2002 (DDD/1000 inhabitants/day)

		2001	2002
J01F A01	Erythromycin	0.32	0.34
J01F A02	Spiramycin	0.04	0.03
J01F A03	Midecamycin	0.26	0.24
J01F A05	Oleandomycin	0.001	0.001
J01F A06	Roxithromycin	0.05	0.05
J01F A07	Josamycin	0.02	0.02
J01F A09	Clarithromycin	0.04	0.05
J01F A10	Azithromycin	0.11	0.11