

# PATTERN OF DRUG PRESCRIBING IN OUTPATIENT ADULTS WITH ACUTE EXACERBATION OF CHRONIC BRONCHITIS

L.Strachounski<sup>1</sup>, S.Ratchina<sup>1</sup>, S.Kozlov<sup>1</sup>, O.Karpov<sup>2</sup>, S.Nedogoda<sup>3</sup>, N.Domnikova<sup>4</sup>, R.Lihatcheva<sup>5</sup>, V.Kuzin<sup>6</sup>, I.Leschenko<sup>7</sup>

<sup>1</sup>Institute of Antimicrobial Chemotherapy, Smolensk, Russia, <sup>2</sup>State Medical University, St-Petersburg, Russia, <sup>3</sup>State Medical Academy, Volgograd, Russia, <sup>4</sup>Novosibirsk Medical Institute, Novosibirsk, Russia, <sup>5</sup>Outpatient Clinic #7, Moscow, Russia, <sup>6</sup>State Medical Academy, N.Novgorod, Russia, <sup>7</sup>City Hospital #33, Ekaterinburg, Russia

## ABSTRACT

**Objective:** To find out the pattern of drug prescribing to adults with acute exacerbation of chronic bronchitis (AECB) in outpatient departments in Russia.

**Methods:** Case histories of outpatients with AECB attending the consulting rooms in 1998 in seven regions of Russia were randomly selected for retrospective assessment. Drugs were classified according to ATC-codes. The specially designed computer program was used for data analysis.

**Results:** 783 case histories of patients aged from 16 to 92 (389 males, 394 females, average age 51.6±13.7) were included in the study. The most often prescribed group of drugs was antimicrobials for systemic use (J01) - 83.9%, followed by cough and cold preparations (R05) - 75.5%, anti-asthmatics (R03) 48.7%, antihistamines for systemic use (R06) - 23.0% and vitamins (A11) 9.8%. The most common antimicrobials for initial therapy were co-trimoxazole (26.7%), ciprofloxacin (15.2%) and ampicillin (10.9%). Among anti-asthmatics the short-acting theophylline was the most frequently prescribed drug (18.5%). Anticholinergics and selective beta<sub>2</sub>-adrenoceptor agonists were used in 7.4% and 6.8% patients, consecutively.

**Conclusions:** Systemic antimicrobials were prescribed to almost all patients with AECB although controversial reports on their effectiveness have been published. Short-acting theophylline remained the most popular bronchodilator despite of its well-known numerous adverse reactions.

## INTRODUCTION

As chronic bronchitis especially its exacerbation is one of the leading causes of morbidity, mortality and health-service cost worldwide its appropriate treatment is of great importance. Although a lot of studies have been conducted during the last decade there are still some uncertainties with the management of AECB, especially relevance of antimicrobials prescribing. Many guidelines have been developed to make easier the appropriate choice. But little is known what drugs the general practitioners actually choose in case of AECB.

## PURPOSES

- ✓ To ascertain the groups of drugs prescribed in outpatient departments for the treatment of AECB.
- ✓ To find out the practitioners' habits on the antimicrobials prescribing for AECB in different regions of Russia.

## METHODS

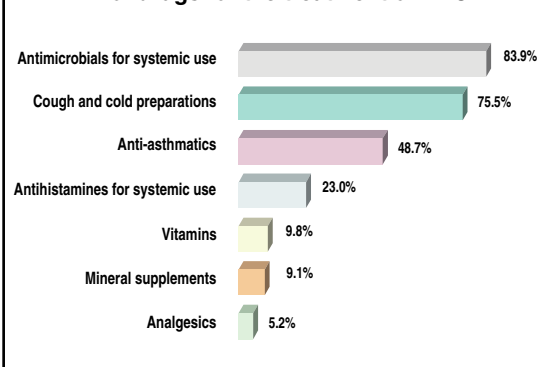
Case histories of outpatient adults with AECB attending the general practitioners in 1998 were randomly selected for retrospective evaluation in seven regions of Russia (Volgograd, Ekaterinburg, Moscow, N. Novgorod, Novosibirsk, St-Petersburg, Smolensk). The personal data of patients (sex, age, body weight), primary and concomitant diagnoses, and pharmacological therapy were recoded in the individual registration cards. Diagnoses were classified according to the ICD-10, drugs - according to ATC codes. The specially designed computer program was used for data management.

## RESULTS

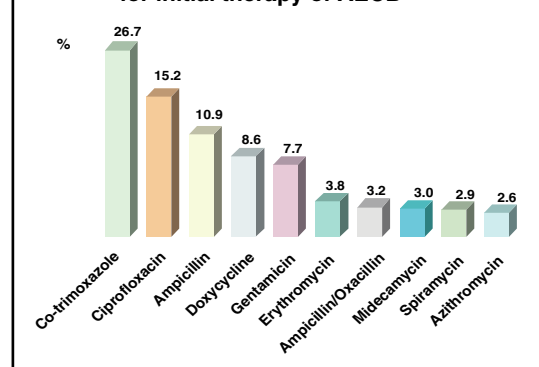
Totally 783 episodes of AECB were enrolled in the analysis. The age of patient varied from 16 to 92 (average age was 51.6±13.7). About 20% (158) of patients were 65 years and older. Significant comorbidities such as congestive heart failure, diabetes mellitus, chronic renal failure, chronic liver diseases were registered in 4.9% (38) of patients, pulmonary insufficiency - in 16.4% (128) of patients.

Altogether 32 groups of drugs were prescribed. The most common of them were antimicrobials for systemic use (J01) - 83.9%, cough and cold preparations (R05) - 75.5%, anti-asthmatics (R03) - 48.7%, antihistamines for systemic use (R06) - 23.0% (Figure 1). Bronchodilators which are considered as mainstay of AECB treatment were used in 48.1% (377) of patients. The most frequently prescribed bronchodilator was short-acting theophylline, which was used in 18.5% (145) of patients. Anticholinergics and selective beta<sub>2</sub>-adrenoceptor agonists were given to 7.4% (58) and 6.8% (54) of patients, respectively.

**Figure 1. The most often prescribed groups of drugs for the treatment of AECB**



**Figure 2. Patterns of antimicrobial prescribing for initial therapy of AECB**



A total of 31 antimicrobials of 11 different groups were used for the treatment of AECB. The frequency of antimicrobials prescription varied from 52% (Moscow) to 99% (St-Petersburg). In the antimicrobial treated group 84.5% (558) of patients were given only one drug during an episode of AECB, 15% (102) - were received 2-3 antimicrobials. The most often prescribed antibiotic for initial therapy was co-trimoxazole - 26.7%, which was the "first choice" drug in five of participated centers, followed by ciprofloxacin - 13.8% and ampicillin - 12.1% (Figure 2). In 88% of cases antimicrobials were administered orally, in 12% - intramuscularly. Average duration of antimicrobial therapy was 8.2±3.4 days.

## CONCLUSIONS

- ✓ Despite of controversy about the effectiveness of systemic antimicrobials they were very often prescribed to patients with AECB.
- ✓ Co-trimoxazole despite of high rate of resistance among common respiratory pathogens to antifolates in Russia remains the "first choice" drug.
- ✓ Short-acting theophylline remains the most popular bronchodilator although its high toxicity is well-known.
- ✓ The very many additional drugs with no proven efficacy in AECB were prescribed.