



RESEARCH ARTICLE

The Study of Subjective Assessment of the Safety and Efficacy of Antihypertensive Drugs from the Group of Beta-Blockers and Calcium Antagonists

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Abstract

Introduction: In order to study in more detail the subjective assessment of the effectiveness of antihypertensive monotherapy, the questionnaires of patients were structured. They were divided into groups according to the drugs used by patients belonging to a particular clinical and pharmacological group: beta-blockers and calcium antagonists. The purpose of this study was to study of subjective factual and prognostic assessment of patients' effectiveness of treatment. **Materials and methods:** Methods such as: questionnaires of patients (content analysis of case histories) were used. Data processing was performed using statistical and mathematical methods and graphical analysis. **Results and discussion:** There were some patterns of lowering blood pressure in patients on the background of monotherapy of hypertension and patients following the doctor's instructions for treatment. **Conclusions:** As a result of the study, it was found that most patients follow the recommendations of doctors on the appointment of antihypertensive drugs.

Keywords: *Arterial hypertension, Antihypertensive drugs, Pharmacoepidemiological study.*

Introduction

There was also a group in which combined drugs were used. Next, a comparative intergroup analysis of indicators was performed. The age and sex composition of the groups, the value of the average SBP and DBP recorded at the reception, the level of manifestation of undesirable (side) effects of the therapy, subjective assessments of the effectiveness of treatment, the degree of satisfaction with this treatment were studied.

To unify the calculations and compare the presented data, indicators of the frequency of side effects of therapy, subjective assessment of its effectiveness, as well as the degree of satisfaction with treatment were presented in points. Comparison of the studied indicators with the help of analysis of variance did not reveal significant differences in any of the studied features. There were also no significant differences in the level of education and the degree of compliance. Next, the study of indicators within each of the compared groups. To do this, subgroups were formed depending on the specific drug

taken by patients. Further analysis was performed in these subgroups. As in the main groups, subgroups carried out a comparative analysis of age and sex, the value recorded on blood pressure, the frequency of side effects, subjective assessments of patients on the effectiveness of therapy, the degree of satisfaction with it, as well as indicators reflecting the initial achieved (actual) and the expected (prognostic) level of general well-being.

Materials and Methods

The study used a questionnaire of 320 patients diagnosed with hypertension; the results of the study were processed by statistical and mathematical methods using graphical analysis.

Results and Discussion

Beta-blocker drugs were presented in monotherapy mostly generics atenolol with the commercial name atenolol, to a lesser extent - bisoprolol (concor), as well as betaxolol (locren) and nebivolol (nebilet) [1, 2].

The levels of fixed blood pressure and the structure of the evaluation criteria are shown in Fig. 1 and 2. The use of atenolol in one third of patients resulted in adverse events such as dizziness and decreased erectile

function, in the remaining patients no side effects were observed. Two-thirds of patients in this subgroup considered atenolol therapy to be effective and the remaining third considered treatment to be ineffective.

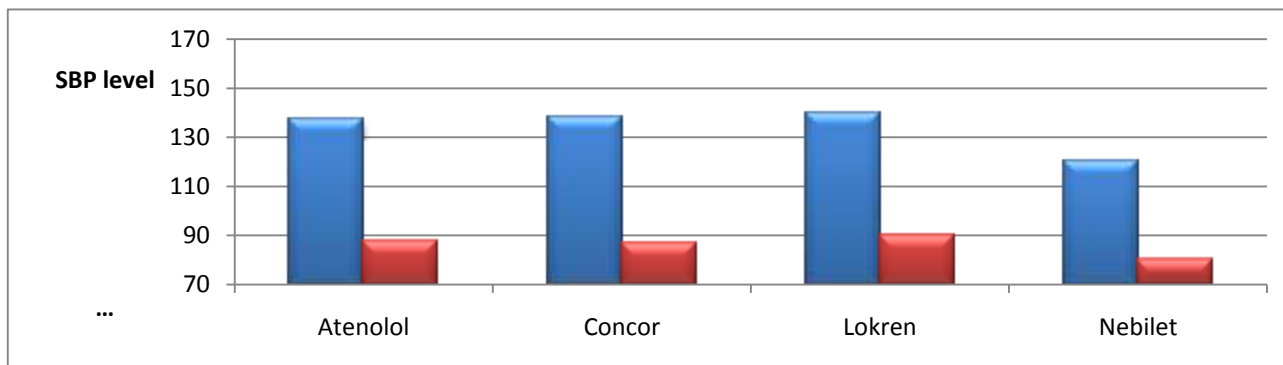


Fig. 1: Blood pressure on the background of beta-blockers, recorded during a visit to the doctor

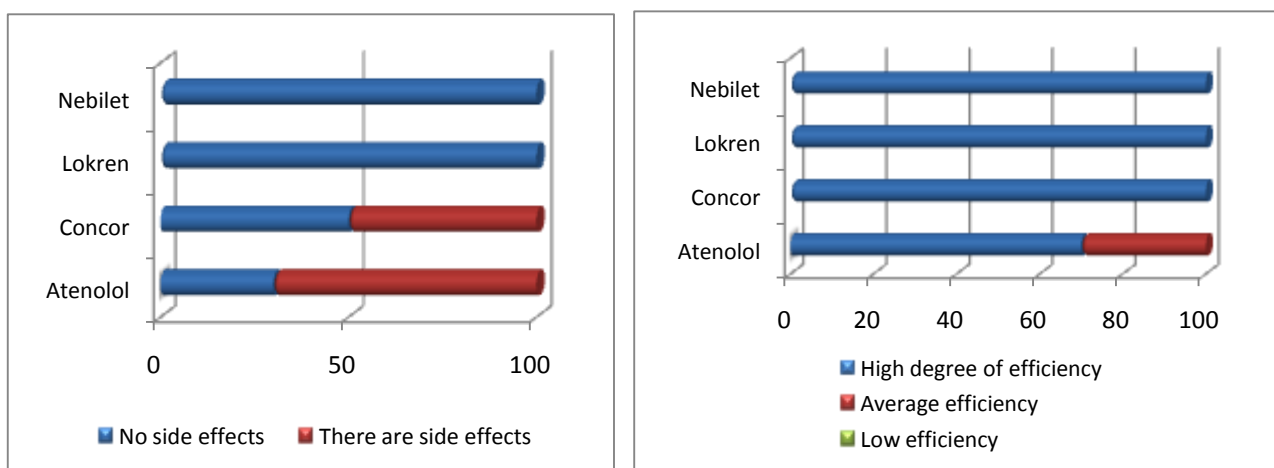


Fig. 2: The structure of the subjective assessment of the effectiveness of therapy with beta-blockers

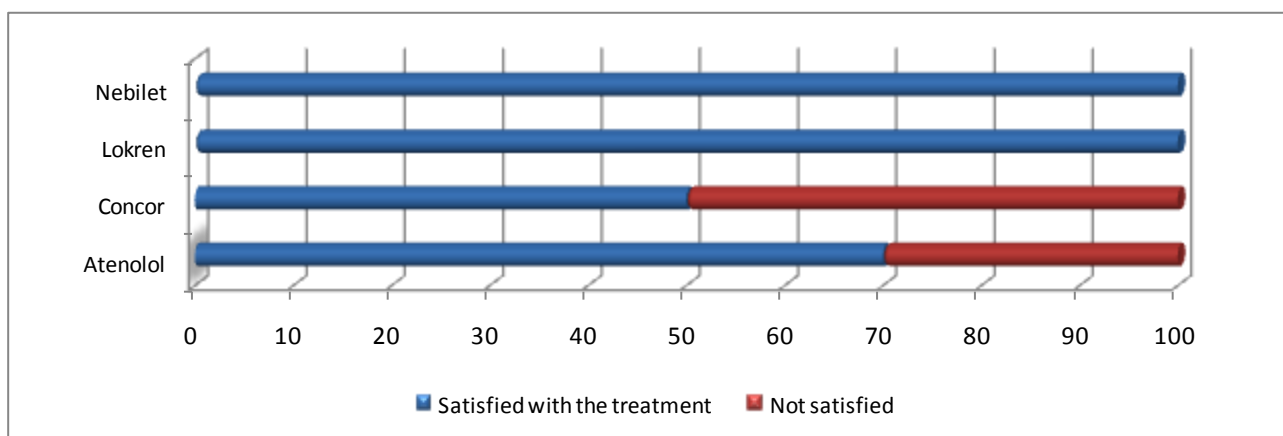


Fig. 3: The structure of the subjective assessment of the effectiveness of therapy with beta-blockers (continued)

In the same way, patients' opinions on the issue of satisfaction with treatment were distributed: 2/3 of patients in this subgroup gave a positive answer and 1/3 - negative. The increase for the actual level of well-being of these patients was 12 %, and for the prognostic - 24 %. Concor therapy in half of the patients taking it led to the development of adverse events.

They were expressed by dizziness, increased fatigue and weakness. All patients who received concor rated this therapy as effective. However, only half of the patients considered this therapy satisfactory, the other half stated their dissatisfaction with the treatment. Growth rates for the achieved level of well-being were 13 %, for the prognostic level - 12 %.

The appointment of lokren did not cause the development of adverse events. Treatment with this drug was evaluated as effective and did not cause dissatisfaction. However, there was no increase in the achieved level of well-being, and the increase in the projected level was 6.5 %. Probably, the lack of growth in the first case and its lowest value - in the second, indicates a high initial level of health, against which the drug was used. Nebilet also did not lead to the development of adverse effects on the background of its use. Its antihypertensive effect was considered effective, and treatment with it, in general, was satisfying. When prescribing this drug, there was an increase in the level of well-being, which amounted to 34 %.

For the predicted level of well-being, this figure was 19 %. In the subgroups of patients taking beta-blockers, the levels of SBP and DBP (Fig. 1), as well as absolute values had no significant differences. Of the calcium antagonists as a monotherapy for hypertension in the study group of patients used the prolonged drug nifedipine with the trade name cordaflex-retard, as well as norvask, which is a drug of the third generation of calcium antagonists - amlodipine. Blood pressure levels recorded on the background of taking these drugs are presented in Fig. 3, and in Fig. 4 shows the structure of the subjective assessment of the effectiveness of these drugs.

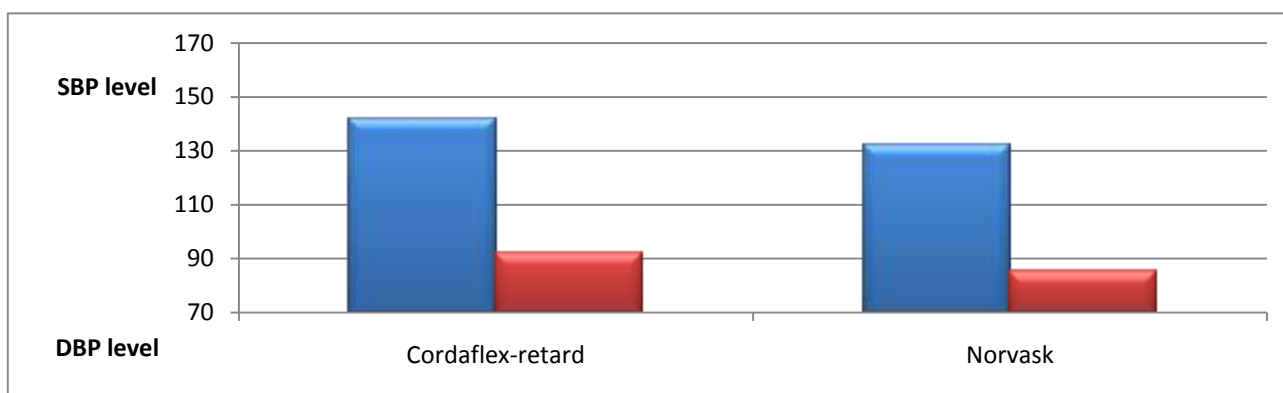


Fig. 4: The level of blood pressure on the background of taking calcium antagonists, recorded during a visit to the doctor

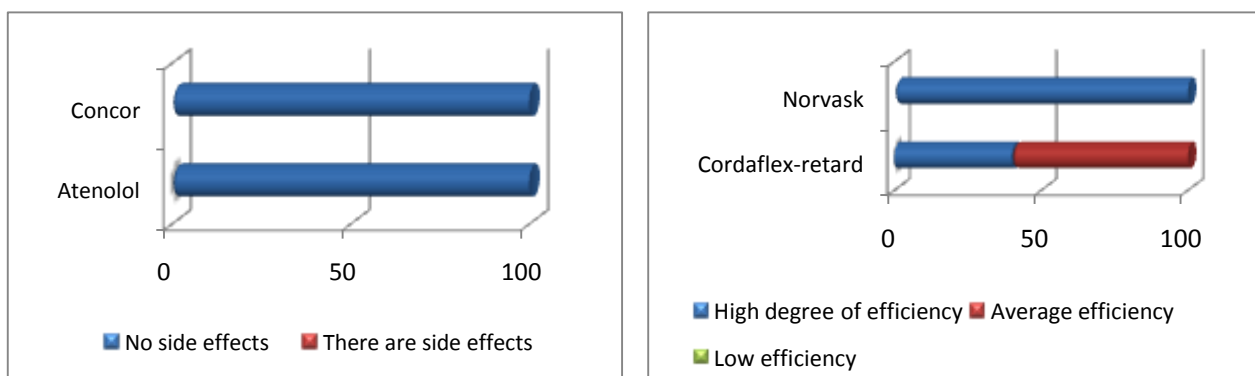


Fig. 4: Structure of a subjective assessment of efficiency of therapy by drugs of calcium antagonists

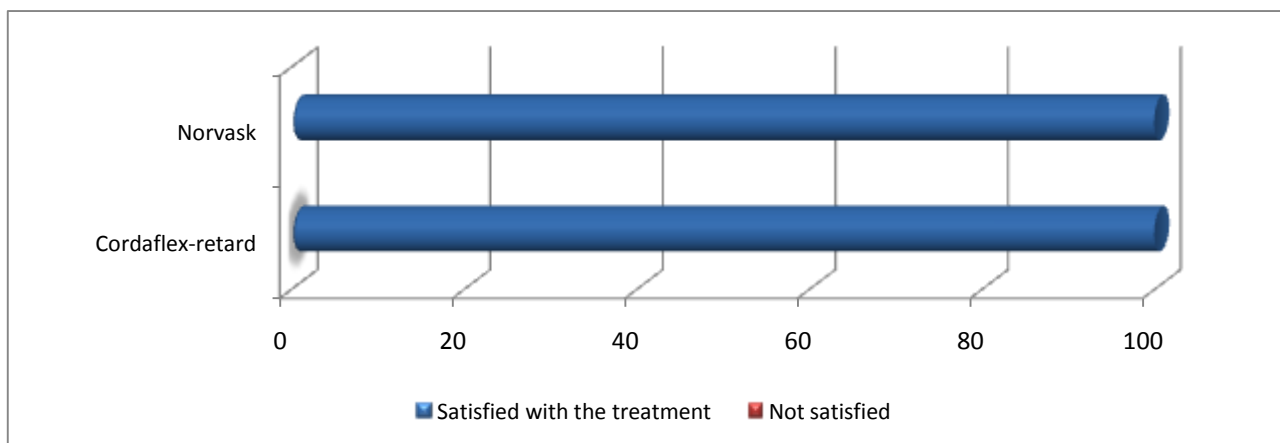


Fig. 5: The structure of the subjective assessment of the effectiveness of therapy with calcium antagonists (continued)

Against the background of taking cordaflex-retard, patients did not notice any adverse effects of the drug. However, only 1/3 of patients evaluated the therapy as effective. 2/3 believed that it was not effective enough. However, all patients expressed satisfaction with it. An increase in the actual level of general well-being on the background of therapy with cordaflex-retard by 18 % and prognostic - by 5 %. In the treatment of norvask in the group of patients to whom it was prescribed as antihypertensive monotherapy, there were no adverse effects of this drug. All patients evaluated the effect of norvask as effective and were satisfied with its use. Against the background of his reception there was an increase in the actual and predicted level of well-being, which amounted to 15 and 10 %, respectively.

Intragroup comparison of questionnaires of patients taking calcium antagonists, found that differences in blood pressure levels, indicators of subjective assessments of patients on the effectiveness of treatment were not significant. Among the combination drugs prescribed to patients in the study group were enap-N and caposide. The levels achieved in their use of DBP were comparable and SBP, although not significant, was slightly lower when using caposide (Fig. 6). The gradients of the actual and prognostic indicator of well-being also had no significant differences. The effect of enap-N was regarded by patients as a drug with a high degree of effectiveness, caposide - medium. As for other subjective assessments of the effect of these drugs, they were also ambiguous (Fig. 7).

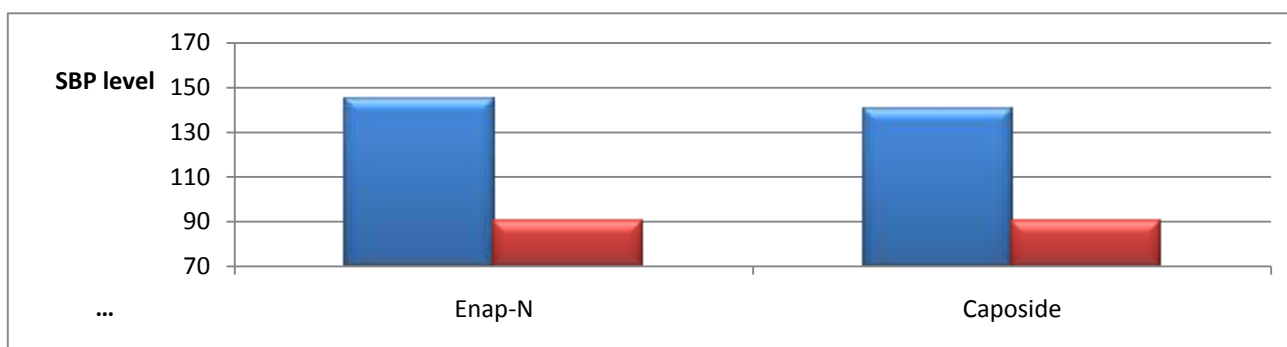


Fig. 6: The level of blood pressure on the background of taking calcium antagonists, recorded during a visit to the doctor

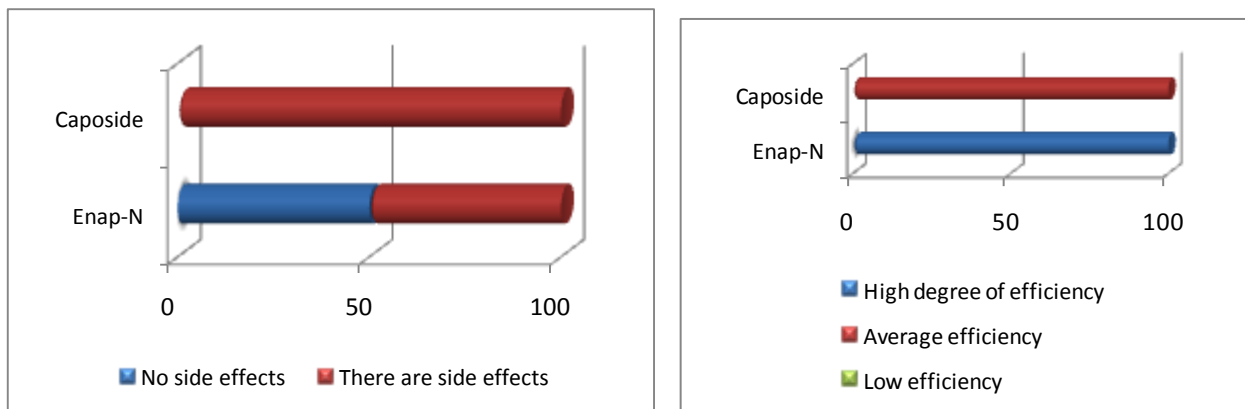


Fig. 7: Structure of a subjective assessment of efficiency of therapy by drugs of calcium antagonists

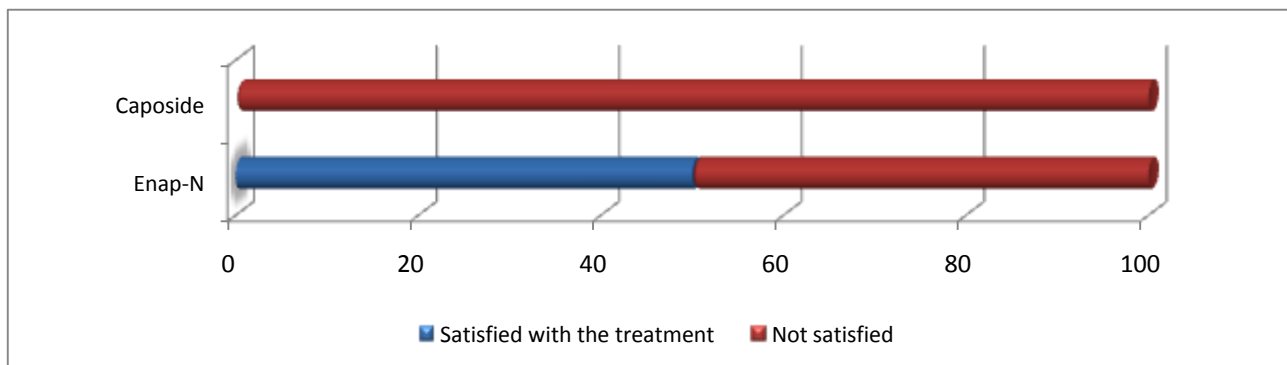


Fig. 8: The structure of the subjective assessment of the effectiveness of therapy with calcium antagonists (continued)

It has been shown that 50 % of patients receiving enap-N have side effects such as dizziness, headache and dyspepsia. This is probably due to the fact that half of the patients taking enap-N found treatment unsatisfactory. Taking caposide was not accompanied by adverse events. However, therapy with this drug did not cause treatment satisfaction. Despite the fact that patients of the described groups took only one of the above drugs, this treatment cannot be considered monotherapy, because these drugs were a combination of antihypertensive drugs [3, 4]. The study of the actual use of antihypertensive drugs showed that one of the features of outpatient antihypertensive

treatment is patients' non-compliance with prescriptions, which is mainly due to financial considerations.

Conclusion

Thus, the results obtained at this stage of the work supplemented the data on the structure of the actual use of drugs, which was necessary for the selection of specific drugs in the subsequent part of the study, and also showed differences in patients' subjective assessment of different treatment alternatives, quality of efficiency and usefulness indicators in pharmacoeconomic analysis. However, costing is also required for pharmacoeconomic analysis.

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