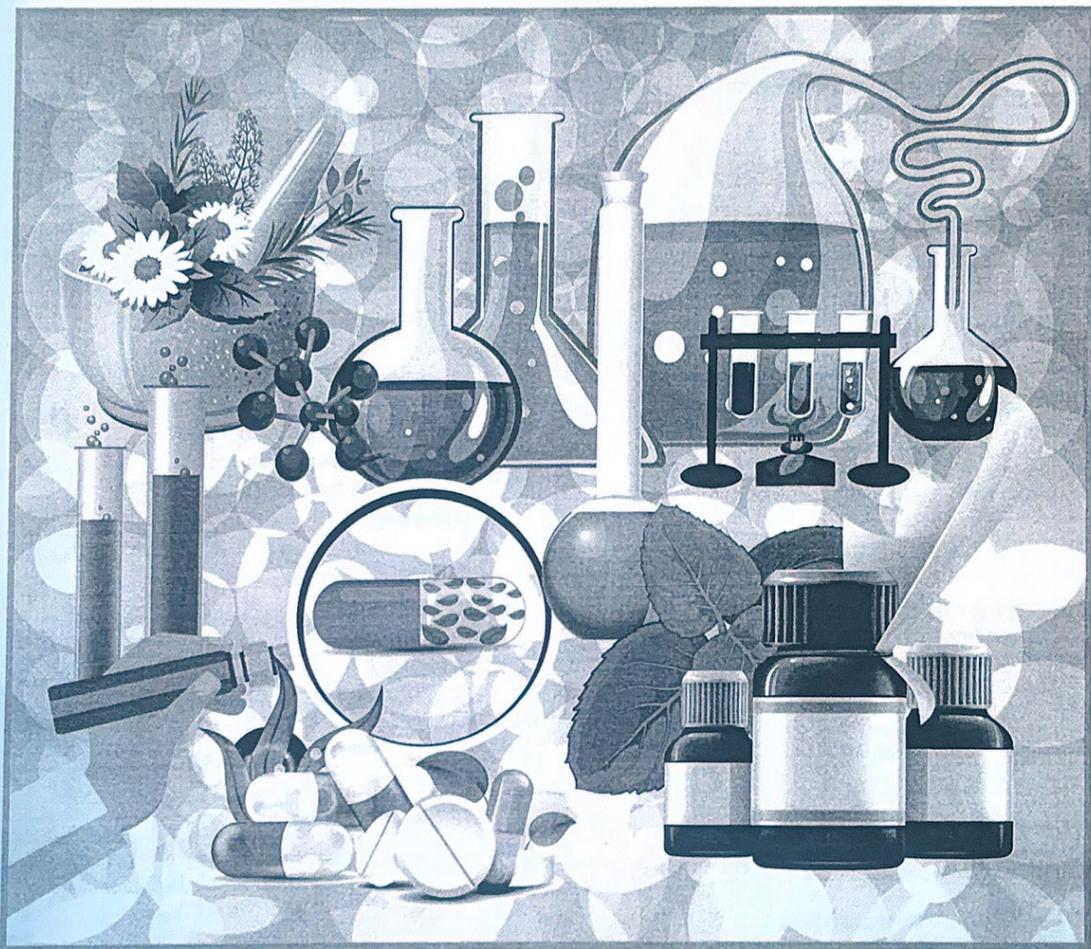




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изделий медицинского назначения  
ЭКСПЕРТИЗЫ  
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## THE STRUCTURE OF THE KARAGANDA REGIONAL MARKET FOR ANTITHROMBOTIC DRUGS

The analysis shows that domestic pharmaceutical producers, which started its production activity relatively recently, is a significant enough market share. In addition, in the future, domestic enterprises in obtaining certificates of GMP, which will inevitably increase as the quality of locally produced drugs and expand the range of produced pharmaceuticals.

### ABSTRACT

The article from the standpoint of marketing to analyze the market antithrombotic drugs at the level of the Karaganda region. Studied the structure of antithrombotic drugs, depending on the type of dosage form, country of origin.

**Key words:** pharmaceutical market, antithrombotic drugs, marketing analysis.

Over the last twenty years of independent existence of the Republic of Kazakhstan the gross domestic product shows a mostly steady growth, although growth rates change significantly from year to year (because every year we expect the index of physical volume of GDP, expressed in percent to the previous year, varies in the range of 1.2-13.5%, and the growth rate depend mainly on the situation on foreign commodity markets). In 2013, according to the statistics Committee, GDP grew by 5.8% in comparison with last year, in 2014, the growth amounted to 4.1% and in 2015 to 1.2%.

The pharmaceutical market represents one of the most significant and rapidly developing segments of the domestic market. In only 2011 the increase in total sales of medicines (drugs) in comparison with 2010 amounted to 9-10%. Consumption of LS, characterizing the degree of development of the pharmaceutical market, an

objective necessity arising from the state of health, demographic, economic and other factors [3,4].

Although the pharmaceutical industry is only about 0.2% of the total volume of Kazakhstan's industry, the industry as a whole is extremely important for the development of the state, speaking one of the indirect indicators of living standards of the population. The analysis shows that manufacture of basic pharmaceutical products in Kazakhstan during the years 1997-2014 showed positive momentum, an increase of over 18 years in 42% [3,4,6].

In 2015, there were 11 403 tons of medicines and other pharmaceutical preparations 297,7 tons that in sum amounted to a third more than in 2014, although in monetary terms, the production decreased in comparison with 2014. In the conditions of crisis the prices for medication have changed, but marketing studies show that the demand for them remained the same as before the crisis because of pharmaceutical drugs belong to the group of commodities [2,3].

With regard to the export and import of pharmaceutical products, we note that the volume of imports greatly exceed exports. According to experts, domestic production of medicines only 20% comes from domestic demand. Thus, the shortage of local pharmaceutical production and people are forced to provide for their needs through imports [3,6]. Analysis of the pharmaceutical market shows that over the past five years, the volume of import has increased from 974 685 thousand US dollars up to 1 219 385 thousand U.S. dollars, while the highest value had for 2013, after which the volume of import decreased. Studies show that export volumes for 2010-2015 continued to grow, in 2015 the rate of export of pharmaceutical products amounted to 27 617 thousand U.S. dollars.

Current cardiovascular time disease remain the leading cause of death in most developed countries, amounting to 40% of all cases of all deaths [1,2]. Therefore, for therapy of cardiovascular disease consumes a significant portion of the health budget; in some countries up to 12-13% of the cost of medical care necessary for treatment of this group of diseases [1,2,4].

In connection with the above, cardiovascular agents worldwide are the largest in terms of sales and one of the most dynamically developing pharmacological classes of drugs. These drugs account for about 18% of total sales in the global pharmaceutical market.

The aim of this work is the study and analysis of the segment of antithrombotic drugs on regional market. For processing and marketing analysis of the market structure of antithrombotic drugs, we used the statistical methods group.

In the Republic of Kazakhstan today reported 7,394 drugs (State register of medicines RK, www.dari.kz). Of these, the preparations of synthetic and biological origin account for 96% and drugs of plant origin 4% [5].

Antithrombotic drugs, which are widely used in the Karaganda region in clinical practice in patients with acute coronary syndrome the following drugs: acetylsalicylic acid, clopidogrel and ticagrelor (figure 1).

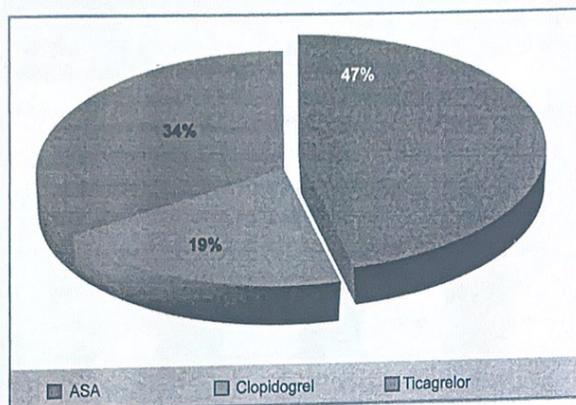


Figure 1 – market Structure of antithrombotic drugs in the Karaganda region, 2015 (according to LLP "Amanat")

Figure 1 shows that the major drugs with antiplatelet effect in our region is represented by acetylsalicylic acid, clopidogrel and ticagrelor with a share of 47%, 19% and 34%, respectively. Acetylsalicylic acid is in the leading position in the above structure. Ask today has the most extensive and powerful the evidence base is a necessary component of dual antiplatelet therapy in the treatment of heart disease and acute coronary syndrome in particular. The leading mechanism of antiplatelet action of acetylsalicylic acid is the irreversible inhibition of cyclooxygenase-1 in platelets, which blocks the formation of thromboxane A2. As a result, inhibited one of the ways in which activates platelet aggregation [7]. This is a relatively new operation with which Ticagrelor is a selective and reversible antagonist of the P2Y12 receptor for adenosine diphosphate (ADP) and can prevent ADP-mediated activation and aggregation of platelets [8,9]. Clopidogrel is one of the most studied antithrombotic drugs with a high level of evidence. The mechanism of action is due to irreversible selective suppression of the binding of adenosine diphosphate (ADP) receptors on platelets, and blockade of ADP-induced binding of fibrinogen with the glycoprotein complex iib/IIIa [10]. These drugs, along with good efficiency, have a high safety profile and compliance of treatment.

Further analysis of the antithrombotic drugs showed that most of the drugs are imported from countries near and far abroad, while domestic manufacturers occupy a much smaller share in the overall structure (figure 2).

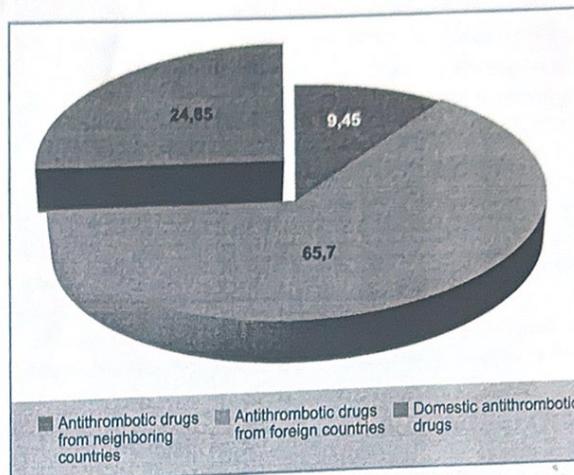


Figure 2 – Analysis of the nomenclature of antithrombotic drugs on the market of Karaganda, depending on the localization of production, 2015 (according to LLP "Amanat")

The analysis shows that, despite the relatively recent start of activities, the domestic pharmaceutical enterprises are of the order of 24.85% of the total market of antiplatelet agents.

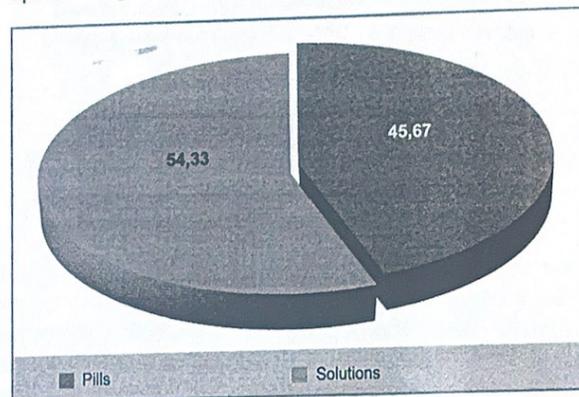


Figure 3 – Analysis of the nomenclature of antithrombotic drugs on the market of Karaganda depending on the formulations, 2015

Also the analysis of drugs in dosage forms. It is established that the main part of the presented solutions, powders for the preparation of solutions – 45,67%; tablets, dragees are 54,33% (figure 3).

We have also carried out analysis of the structure of outpatient and hospital market segments in the regional market of antiplatelet agents (figures 4,5).

The analysis shows that the share of new antithrombotic drug ticagrelor in the structure of both outpatient and hospital segment from year to year greatly increased. This is due to the fact that ticagrelor is an active drug and not the prodrug in contrast to clopidogrel, has a more pronounced antiplatelet effect, and comparable safety with clopidogrel [8,9]. The results of the international randomized study of Plato included ticagrelor international guidelines for the management of patients with acute coronary syndrome [8,9].

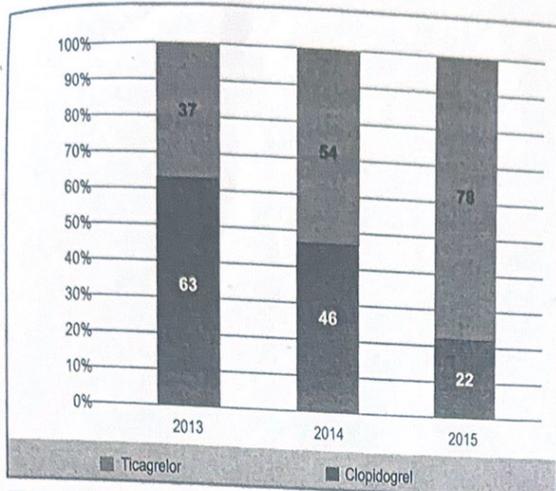


Figure 4 – Segmentation of the market according outpatient Karaganda LLP Amanat, 2013-2015

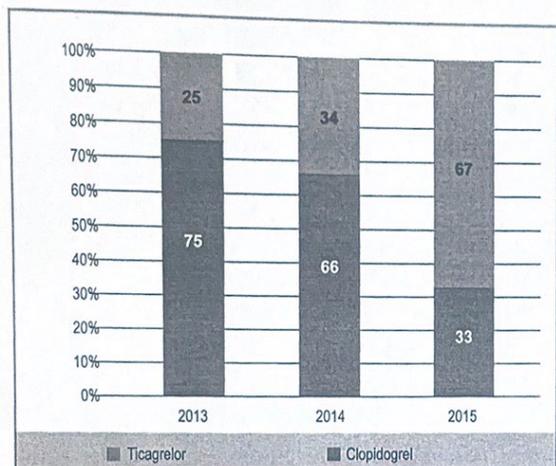


Figure 5 – Segmentation of the hospital market of Karaganda LLP, according to Amanat, 2013-2015

We have conducted marketing analysis of pharmaceutical market of antiplatelet agents that are registered in the Republic of Kazakhstan, at the regional level. The structure of antiplatelet drugs is represented by three

main antiplatelet agents that are widely used in General and urgent cardiology practice in our region: acetylsalicylic acid (47%), clopidogrel (19%), ticagrelor (34%).

It is established that the relative share of the new operation of ticagrelor in the hospital and outpatient segments of the supply has been steadily increasing from year to year.

Depending on localization of production of domestic drugs with antiplatelet effect in the total share is 24,85%, medicines produced in the neighboring countries of 9.45%, medicines produced in countries of the far abroad of 65.7%.

Thus, the analysis shows that domestic pharmaceutical producers, which started its production activity relatively recently, is a significant enough market share. In addition, in the future, domestic enterprises in obtaining certificates of GMP, which will inevitably increase as the quality of locally produced drugs and expand the range of produced pharmaceuticals. We are confident that this factor will have a powerful positive impact on the development of the industrial market of Kazakhstan and the macroeconomic situation in our country as a whole.

#### РЕЗЮМЕ

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### МАРКЕТИНГОВЫЙ АНАЛИЗ РЫНКА АНТИТРОМБОТИЧЕСКИХ ЛЕКАРСТВЕННЫХ ПРЕПАРАТОВ КАРАГАНДИНСКОЙ ОБЛАСТИ

В статье с позиций маркетинга проанализирован рынок антитромботических лекарственных препаратов на уровне Карагандинского региона. Изучена структура антитромботических препаратов в зависимости от вида лекарственной формы и страны производителя.

**Ключевые слова:** фармацевтический рынок, антитромботические препараты, маркетинговый анализ.

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