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**CREATION of MEDICAL PRODUCTS of «KARAGAI» AND «KDZ»
FROM NATURAL AND SYNTHETIC RAW SOURCES, AND THEIR
PHARMACOLOGICAL PROPERTIES**

**СОЗДАНИЕ ЛЕКАРСТВЕННЫХ СРЕДСТВ «КАРАГАЙ» И «КДЗ»
ИЗ ПРИРОДНЫХ И СИНТЕТИЧЕСКИХ СЫРЬЕВЫХ ИСТОЧНИКОВ, И
ИХ ФАРМАКОЛОГИЧЕСКИЕ СВОЙСТВА**

**ТАБИЯТТЫК ЖАНА СИНТЕТИКАЛЫК ЖАРАТЫЛЫШ
БАЙЛЫКТАРЫНАН «КАРАГАЙ» ЖАНА «КДЗ» ДААРЫЛАРЫН
ИШТЕП ЧЫГУУ, ЖАНА АЛАРДЫН ФАРМАКОЛОГИЯЛЫК
КАСИЕТТЕРИ**

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The successes of modern biology, chemistry and medicine alongside with achievements of scientific and technical progress are actual, and are closely connected with creation of newer effective and safe medical products. Ecologically pure natural substances and products of a chemical synthesis are widely used for creation of medicinal preparations. And it is perspective in that meaning, which are formed substances in plants in a result of cellular processes and purposeful synthesis of bonds, their chemical structures, physical and chemical properties, and also their updating are close to metabolites of an organism since they possess a small toxicity, good solubility and selectivity of action [2].

The certain place belongs to preparations, which are intended for the treatment

and prophylaxis of diseases of gout, muscular and tonic frustration and peripheral nervous system. Among this group are known medicines containing: alkaloids, ether oils, pitch and fat acids, feticides, etc. substances of plants. However agents for the treatment of above-stated diseases are insufficient and their long practical application can to cause loss of efficiency [1].

In this connection in 1991 at the Institute of biopharmacology National Academy of sciences of the Kirghiz Republic was created a new medicinal preparation – ointment of balsam «Karagai» for the treatment of diseases of a gout, muscular and tonic frustrations and peripheral nervous system. The balsam «Karagai» represents a natural complex of physiologically active substances of the flora of Kyrgyzstan and possesses anesthetizing, anti-inflammatory, revolting action, which is correct reflex nonspecific fastness and is stimulating protective force of an organism.

They are lead physical and chemical, pharmaceutical, pharmacological and clinical researches of a preparation «Karagai».

The research of analgesic action of balsam ointment «Karagai» was spent in 2 series: 1) on the 3 kinds of experimental animals, which was shown full harmlessness of a preparation at its external application.

2) also anesthetizing property of a preparation «Karagai» has been studied on the 30 people-volunteers. Among examinees were practically healthy of people, and also patients with various kinds of an osteochondrosis (cervical, thoracic, lumbosacral), a migraine, the residual phenomena of bruises and stretching of articulate ligaments, etc. Objectively at patients were observed joint pains at active movement, restriction of movement in joints, tumescence and a hyperemia.

The ointment of balsam «Karagai» was put on a corresponding site of a skin in a small amount after the preliminary massage after that a place of application was covered by a warm material. In 20-30 seconds at examinees was observed, the feeling of an easy cool, which then was replaced by sensation of pleasant heat, simultaneously it was accompanied by decrease and even full disappearance of painful sensations (at patients). The repeated applications of preparation in during 2, 3 and 5 days were led to decrease and even to full disappearance of a painful

sensations, tumescence, hyperemia and at 70-80 % of patients have come full convalescence.

At the observation over examinees within 20, 40 and 60 days is established, that relapses of disease was not observed, no in one case, was not observed the phenomena's of boring of a skin, allergic displays and also general reactions.

They are developed 4 Time of Pharmacopeias articles on the ointment of balsam «Karagai» and to its components. Clinical tests of a preparation are lead in 7 clinics of the CNG countries: in a 4 clinics of Moscow, St.-Petersburg and Kiev, Minsk and Bishkek. The preparation of «Karagai» is protected by the Patent of the USSR, is approved Pharmacopoeia and Pharmacological Committees of Ministry of Health of the USSR, and is introduced in a clinical practice as a medical product, and also is recommended for application in sports medicine [3].

In 2008 in the laboratory of biopharmacology Innovative center of fitotechnology the National Academy of sciences of KR is developed new medicinal form the substance «KDZ», with the purpose of creation of an antitumoral medicinal preparation for treatment of oncological diseases: Acsite cancer of Ehrlich (a diploid variant), leucosis, leukemia's, etc. On a compound «KDZ» is received patent of KR on the invention «The way of treatment of Acsite tumor of Ehrlich (a diploid variant)» [4].

The substance of «KDZ» is synthesized at the Institute of chemistry and chemical technology of National Academy of sciences of KR which is concerned to carbohydrates containing of derivatives of nitrozoalkylureas.

The certain place belongs to nitrozoalkylureas.in series of agents of the antitumoral action which are intended for the treatment and prophylaxis of oncological diseases. Among such preparations are most known nitrozoalkylurea, aranoza, etc. However the arsenal of anticancerogenic medicines for treatment of tumor diseases is obviously insufficient. Introduction in an oncology practice of new antitumoral preparations expands opportunities of a successful treatment of many forms of cancer tumors, and also tumor diseases of the hemopoietic and lymphoid tissues, which are considered incurable. In this connection is necessary addition of

the some medicinal preparations which are possessing anticarcinogen properties and greater breadth of therapeutic action, etc.

It is known, that according to Committee of Experts of the World Organization of Public health services the chemotherapy of malignant neoplasm's is recognized by one of the basic methods of treatment in an oncology and is independent, and a perspective direction in a medical practice.

In many countries of the world are carried intensive researches at development of methods of synthesis, studying of physical and chemical and antiblastical properties of bonds of different groups. Among original anticarcinogen agents actual meaning have synthetic agents. Researches in the field of medicinal treatment of malignant neoplasm's now are directed and on updating of known antitumoral preparations, and also on searches of new substances with other mechanism of action.

Purpose of the present work was the scientific substantiation, search, studying of physical and chemical properties of the medicinal form of a substance «KDZ», the pharmacological and toxicological characteristic, specific antitumoral activity, pharmacological properties and a way of treatment of Ascite tumor of Ehrlich (a diploid variant) on models of experimental animals of carried tumors in comparison with analogue – endoxane.

It is studied acute and chronic toxicity of a substance of «KDZ», influence on functions of the central nervous system, organs of respiration, cardiovascular system, a liver, kidneys, endocrine glands, a peripheral blood, lymph nodes and dates of biochemical researches: activity of a liver, secretor system, endocrine glands, organs of a circulation and lymphatic system, etc.

They are carried out histological, path morphological researches of the vital internal organs and tissues under the influence of a compound «KDZ».

It is established antitumoral specific activity of the medicinal form of a substance «KDZ» on models of animals of tumor carriers with Ascite tumor of Ehrlich's (a diploid variant).

It is studied local irritant and allergogenic action, influence on an immune

system, carcinogenic, embriotoxic and teratogenic properties of a substance. Also it is studied the way of treatment of Ascite tumor of Ehrlich (a diploid variant) on models of animals of tumor carriers.

Thus, it is created a medicinal preparation of «Karagai» of local and systemic action for treatment of diseases of a gout, muscular and tonic frustration, peripheral nervous system and which possesses by anesthetizing, anti-inflammatory and revolting properties.

In a result of researches of balsam ointment of «Karagai» on the people-volunteers is established, that a preparation at 2, 3 and 5 multiple external application possesses anesthetizing action, and at patients with some forms of a lesion of peripheral nervous system and a gout causes proof long decrease of ill or leads to putting off of a painful syndrome.

Also it is developed of new antitumoral medicinal form of a substance «KDZ» is lead preclinical studying of parameters of pharmacological activity on the experimental animals. The compound of «KDZ» possesses with specific antitumoral activity, reduces volume of a cancer tumor, stopping its body height and prolongs life expectancy of animals.

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