

INVESTIGATIONS ABOUT SYNTHESIS AND ANALYSIS IN THE RANGE OF SUBSTANCES WITH POTENTIAL ANTI-INFLAMMATORY ACTIVITY

Mhmod Suhaib Kadhim Kani¹, Burian H.O.¹, Burian K.O.², Poluyan S.M.¹

¹National University of Pharmacy, Kharkiv, Ukraine

²Institute of Pharmacy Professionals Qualification Improvement, Kharkiv, Ukraine
anna_chem@ukr.net

Introduction. Despite the fact that the inflammation is a seemingly insignificant condition, it can lead to a number of rather significant complications, and in some cases to death. For a long time, people suffered from various inflammations – various traumatic injuries, gum infections, joint inflammations, common inflammations after domestic injuries and the like.

At the same time, doctors of all times tried to find an opportunity to improve the patient's condition, eliminate all the causes and symptoms of inflammation, especially with regard to children. In modern theoretical and clinical medicine, the problem of inflammation remains one of the main ones, and despite the abundance of modern drugs, it still requires expanding the assortment and minimizing side effects along with strengthening the main ones.

So, search of the new compounds for treatment inflammations, new substances with high potency and low toxicity is still actual for modern chemists-synthetics, pharmacologists and pharmacists.

Aim. The development of scheme of synthesis in the range of N-pyridyl-4-methyl-2,2-dioxo-1h-2λ⁶,1-benzothiazine-3-carboxamides derivatives, elaboration of methods for their qualification and elaboration of techniques for their assay, aimed to solve tasks of pharmaceutical analysis.

Materials and methods. N, N-carbonyldiimidazole, 4-methyl-2,2-dioxo-1H-2 of 6,1-benzothiazine-3-carboxylic acid, dimethylformamide, derivatives of corresponding hetarylalkylamines, methods of physico-chemical analysis: determination of the melting point, elemental; methods of biological analysis; chemical reactions for determination of identity, titrimetric methods for assay.

Results and discussion. As it has been stated after biological investigations, the most potent representative in the range of amides of N-pyridyl-4-methyl-2,2-dioxo-1h-2λ⁶,1-benzothiazine-3-carboxamides derivatives is N-(2-Methoxybenzyl)-4-methyl-2,2-dioxo-1H-2/6,1-benzothiazine-3-carboxamide, which has shown the most potent anti-inflammatory type of activity in comparison with the Control.

Conclusions. Technique of synthesis for the most potent substance for the mentioned above type of biological activity as well as and methods for its analysis will be tested on experimental samples and, if it is necessary, improved.

THE ROLE OF ORGANIC SUBSTANCES IN CORRECTION OF SKIN PIGMENTATION

Myrgorodska K.V.

Scientific supervisor: assoc. prof. Boriak L.I.

National University of Pharmacy, Kharkiv, Ukraine

myrgorodskaya00@gmail.com

Introduction. The natural desire of humanity to become more perfect gives impetus to the development of many sciences, including cosmetology. However, the experience of today convinces us that urgent issues are best addressed with the effective interaction of different fields of knowledge.

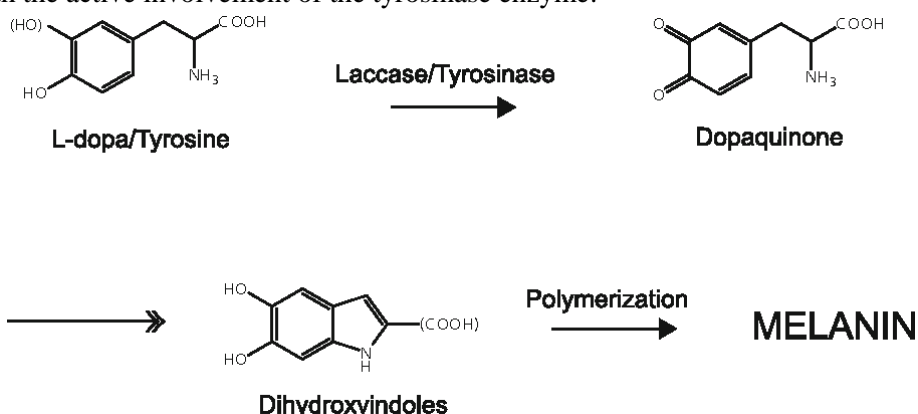
Aim. Determination of the role of organic compounds in the correction of skin pigmentation.

Material and methods. The information from the open Internet sources and print publications.

Results and discussion. The analysis of the causes of pigment dysfunction allows us to identify the main risk factors: ultraviolet radiation, fluctuations in hormonal levels (age, genetic, as a result of disorders of the endocrine system), diseases of the gastrointestinal tract, injuries and improper skin care.

Deviation from the melanin content causes freckles, chloasms, lentigo, vitiligo, birthmarks and age spots. Melanin synthesis disorders can be eliminated only after its causes have been identified

The macromolecular complex of tyrosine and serine transformations by successive oxidation reactions leads to the synthesis of a heterocyclic polymer – melanin. The first two stages of the process take place with the active involvement of the tyrosinase enzyme:



For the correction of the content of melanin in the tissues use three groups of agents. The first is irreversible inactivators that form covalent bonds with tyrosinase (arbutin, coic acid). The second group of inhibitors include substances that inhibit melanin synthesis. They form temporary bonds with tyrosinase (the "gold standard" is hydroquinone, azelaic acid, niacinamide, ascorbic acid and its derivatives). The third group includes preventive agents ("ANA" acids - α -hydroxy acids). They are used for chemical peels, fluffing of the epidermis. Good results are achieved only by a competent combination of substances.

Conclusions. For the correction of pigmentation is used a wide arsenal of different mechanism of action of organic compounds. These include: phenols and their glycosides (hydroquinone, arbutin), dicarboxylic acids (azelaic), α -hydroxy acids (glycolic, malic, citric, salicylic, almond), heterocyclic compounds (koy, ascorbic acids).

GOLD IN MEDICAL AND BIOLOGICAL RESEARCHES, IN MEDICINE AND PHARMACY

Nikolaenko A.

Scientific supervisor: Turchenko N. V.

National University of Pharmacy, Kharkiv, Ukraine

alexnik1997@gmail.com

Introduction. The role of gold in human history, its content in the environment and element value for the human body. The use of gold and its compounds in pharmacology, traditional therapy and modern electronics is considered.

Aim. The use of nanogold, its chemical compounds and radioactive nuclides in various fields of biomedicine is explained by high chemical stability, low toxicity, relative simplicity of the synthesis and modification of the obtained products, economic and environmental safety, rapid excretion of the ^{198}Au radionuclide from the body, and action selectivity.

Materials and methods. In the 20s of the last century researchers found that gold chlorides have a bactericidal effect. Some gold compounds exhibit antibacterial effects against *Helicobacter pylori* as well as antifungal activity. Gold compounds such as aurothioglucose, sodium aurothiomalate, triethylphosphine have also been tried to treat syphilis, alcoholism, morphine addiction, nephritis, anemia, neurasthenia and premature aging. A more effective and less toxic compound was gold sodium thiosulfate AuNaS_2O_3 which has successfully proved itself in the treatment of lupus. Since the middle of the last