

with a large portion of foreign producers based in India, as well as EU countries such as Greece, Spain and Romania.

A positive trend in the pharmaceutical sector is the expansion of the range of infusion drugs and the emergence of new manufacturers, which enhances the effectiveness and safety of patient treatment. Given the rising incidence of acute and chronic diseases, the demand for infusion solutions is expected to continue growing. A promising direction for development is the creation of new colloidal solutions and biotechnological drugs with improved pharmacological properties.

Thus, in terms of the number of registered infusion drugs, domestic manufacturers dominate the Ukrainian pharmaceutical market, with PJSC "Infuziya" leading the sector. However, in terms of the number of manufacturers, foreign enterprises prevail, although they occupy only about one-third of the domestic market. It is expected that in the coming years, the market for infusion preparations will continue to grow steadily and expand its product range. Therefore, the expansion and improvement of existing production technologies, the development of new innovative medicinal products and the enhancement of the safety of infusion drugs represent promising and competitive directions in the Ukrainian pharmaceutical market.

Prospects of creating ovules with anti-fungal action

Fenenko A. S., Kryklyva I. O., Sichkar A. A.

National University of Pharmacy, Kharkiv, Ukraine

irinakriklyva@ukr.net

Vulvovaginal candidiasis (VVC) occurs in 85 % of women of reproductive age and negatively affects the quality of life of women - itching, abundant curdled vaginal discharge and urination disorders. Antifungal drugs are used to treat VVC. Fungi of the genus *Candida* show persistent desensitization to oral drugs, so if there are no complications and mass lesions, then vaginal suppositories (ovules, pessaries) are the best solution for the treatment of this pathology. One of the key factors influencing the pathological process is the use of active substances not only of

synthetic origin, but also of plant-based products. The methodological and scientific basis for the creation of such drugs is the presence of biologically active substances (BAS) in them, which helps to enhance the pharmacological action of synthetic active pharmaceutical ingredients (API). Based on the analysis of the literature, we selected the following APIs - a 20% solution of sodium tetraborate in glycerin and a dry extract of grapefruit seeds. Sodium tetraborate destroys the products of fungal life, does not allow them to develop, creating an alkaline environment in the vagina, due to which the unpleasant manifestations of candidiasis are eliminated and the microflora is normalized. Dry extract of grapefruit seeds has an antifungal effect and, unlike synthetic antifungal drugs, it is not addictive, is not toxic, does not cause side effects such as allergies and the destruction of beneficial microflora, as a result of which the sensitive microflora of the vagina is not disturbed.

We chose ovules as the optimal dosage form for the treatment of this pathology. They act faster than any oral drugs due to the accumulation of a high concentration of API directly in the infectious focus, low multiplicity of application, the possibility of use with drugs of other pharmacological groups and a small list of contraindications.

Fenton reaction-driven ascorbate depletion monitored in real time

Gerashchenko B. I.

R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology,

National Academy of Sciences of Ukraine, Kyiv, Ukraine

bigerash63@gmail.com

The Fenton reaction is a process that involves the reaction between transition metal ions (typically Fe^{2+}) and hydrogen peroxide (H_2O_2), generating hydroxyl radicals ($\bullet\text{OH}$), highly reactive species that can damage biomolecules. Vitamin C (ascorbic acid or ascorbate), which is a water-soluble essential nutrient, can be dual-faceted in its influence on the Fenton reaction, playing pro- and anti-oxidant roles. It can enhance the generation of $\bullet\text{OH}$ by maintaining the iron in its active Fe^{2+} form by reducing Fe^{3+} , but it can also act as an anti-oxidant, potentially mitigating the damage