

*Andreev A. A.*

**THE USE OF BOTULINUM TOXIN IN AESTHETIC MEDICINE AND NEUROLOGY**

***Tutors: Cand. Chem. Sc., Professor Lopina N. P., Cand. Chem. Sc., Associate Professor Bordina G. E., Cand. Phil. Sc., Associate Professor Gavrilenko N. G.***

*Department of Chemistry, department of Foreign Languages and Latin  
Tver State Medical University, Tver*

The purpose of the study is to determine, based on the analysis of scientific literature, what causes the use of botulinum toxin in aesthetic medicine and neurology.

The materials and methods were the work with scientific literature and the systematization of the data obtained.

Aesthetic botulinum therapy is one of the most popular methods of contouring and correcting age-related skin changes and other imperfections of the face and body. Botulinum toxin treatment is based on drugs containing botulinum toxin type A. By the beginning of the XXI century, it began to be used in neurology and cosmetology. Currently, there are 4 principal types of botulinum toxin-based drugs widely used in cosmetology. These are "Botox" (USA), "Xeomin" (Germany), "Disport" (France) and "Lantox" (China).

The active substance contained in Botox is purified botulinum toxin type A, the other ingredients being human serum albumin and sodium chloride. Due to the large molecule size of the 900 kDa and high albumin content, Botox has limited diffusion which makes it possible to obtain the desired effect even in difficult injection sites.

Xeomin is an alternative to Botox that has been found safe and effective. The highly purified type A toxin is freed from the foreign proteins. Side effects of both drugs are mainly caused by allergic reactions or insensitivity to botulinum toxin due to production of antibodies after several injections.

High penetration into the tissues is both an advantage and a disadvantage of Disport. On the one hand, it provides a quick visible effect. On the other hand, these are possible adverse reactions manifested in discomfort and unpleasant sensations at the injection sites, as well as possible drooping of the upper eyelids or raising of the eyebrows that is too obvious.

The effect of Lantox is seen 24 hours after administration and reaches its maximum on day 14. The effect persists for 3-6 months. In practice, the drug has shown quite good results. With an equivalent dose, the effect is stronger than that of Botox and milder than that of Disport. It is the most affordable drug of the four.

In neurology, botulinum toxin is used to relieve headaches, restore motor functions, and eliminate excessive sweating.

Thus, the choice of one or another means is decided personally. For example, for a faster result, cosmetologists recommend Xeomin or Disport. Correction of eyelid wrinkles is more effective using Botox. However, in any case, it is advisable to consult a cosmetologist-dermatologist or neurologist, conduct a thorough workup, weigh risks and benefits and analyze all physiological features.