

diseases resulted in activating of anticarcinogenic answer of organism and diminishing of tumour. At the same time his colleague is Japanese immunologist Tasuku Khondze – employee of the National academy of sciences of the USA – opened the receptor of PD-1 (Programmed Cell Death Protein-1) on-the-spot lymphocytes, activating of which results in suppression of their activity. Lymphocytes are able to fight, in particular, with cancer cells, and consequently blocking of PD-1 also allowed to strengthen anticancer activity of the immune system. Both researches allowed to create the new going near therapy of cancer without the use of radio- and chemotherapy, which was named a «immune checkpoint blockade». On the basis of researches scientists developed preparation of «Ipilimumab», which contains antibodies which block CTLA-4. Preparation was approved to the use against a melanoma. And also preparation of «Nivolumab» with antibodies to Pd-1, which will use against a melanoma, cancer of lungs, kidneys and other types of cancer.

Conclusions. All is listed above testifies to large potential and prospects of immunology in the decision of problem of cancer.

USE OF BOTULINUM TOXIN FOR MEDICAL AND COSMETIC PURPOSES

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Introduction. Botulinum toxin is the strongest among the currently known neurotoxins. In modern history, botulinum toxin has come a long way from the most powerful deadly natural poison to a potent nerve poison, and then to a highly effective drug.

Aim. Using literature data to study the effect of the use of botulinum toxin for medical and cosmetic purposes. Results and its discussion. The history of the development of botulinum toxin preparations goes deep into the XVIII century.

The first scientific studies of botulinum toxin were carried out in connection with the possibility of its use as a bacteriological weapon until the mid-40s of the 20th century.

At the beginning of the 60s, they developed a technology for purifying and obtaining a crystalline, highly purified culture. The results of these studies interested clinicians.

In the 80s, for the first time in clinical practice, namely in ophthalmology, botulinum toxin A (Akulin, now Botox) was used to treat strabismus, blepharospasm and hemifacial spasm.

Today, this drug is used in almost all areas of clinical medicine: urology, surgery, gastroenterology, dentistry, orthopedics, gynecology, etc.

In the treatment of many neurological diseases, as well as in the rehabilitation of patients after a stroke or traumatic brain injury, intramuscular administration of botulinum toxin has the highest level of evidence regarding muscle tone reduction and improvement of the passive function of the affected limb. In cosmetology, botulinum toxin A-based preparations began to be actively used in the early 2000s to smooth facial wrinkles. The principle of action of the drug is based on the relief of nerve impulses that cause the muscles to contract, and the skin to form folds.

Existing drugs of botulinum toxin type A – Botox, Dysport, Xeomin and Lantox have different safety and efficacy profiles, differences related to the production, composition and algorithm of use. When any preparation of botulinum toxin is injected in the tissues, neurotoxin and protein complex are separated. The mechanism of action of the neurotoxin is due to the blockade of the presynaptic membrane and the violation of the release of the mediator acetylcholine into the synaptic cleft.

Findings. Botulinum toxin, being the strongest neurotoxin, in safe doses and of adequate quality can be used for both medical and cosmetic purposes. The main rule of effective botulinum therapy is an individual approach to the determination of indications, the choice of dose and the site of administration.