THE ROLE OF ANTIBIOTIC THERAPY IN THE PATIENTS AND NOSIONS SANITATION DIFTERIAL INFECTION

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Introduction and aim. Diphtheria is a severe infectious disease with high mortality, which occurs today against the background of vaccine prophylaxis. The ability of corynebacteria to produce a toxin is a major symptom of their pathogenicity, therefore, the pathogens are toxicogenic strains of *Corynebacterium diphtheria.* But the use for the prevention of toxoid does not always prevent the development of the disease and does not affect the persistence of the pathogen. To treat patients with toxigenic forms of diphtheria, the antitoxic serum is used primarily, and antibiotic therapy is of secondary importance. In our time, the rehabilitation of carriers of non-toxigenic diphtheria strains is relevant and antibiotic therapy is the first place. According to the protocol for the treatment of diphtheria infection, the Ministry of Health of Ukraine recommends certain groups of drugs, especially the penicillin number. Given the variability of microorganisms under the influence of many environmental factors (in modern conditions, primarily under the influence of electromagnetic radiation), the antibiotic resistance of nontoxicogen strains of *Corynebacterium diphtheria,* mitis and gravis, were isolated from bacterial carriers to different classes of antibacterial drugs.

Materials and methods. Determination of the susceptibility of the studied microorganisms to the antimicrobial drugs was carried out using a disk diffusion method on the Muller-Hinton medium using commercial disks with benzylpenicillin, ampicillin, rifampicin, cefalexin, ofloxacin, levofloxacin, gatifloxacinum, cefalotinum, erythromycin, gentamycin by the NICP (St. Petersburg) standard methodology.

Results and conclusions. Studies have shown that 92% of the examined strains were insensitive to benzylpenicillin, while according to the protocol for treatment of patients and bacterial carriers of diphtheria infection approved by the Ministry of Health of Ukraine, this drug is recommended for use and is effective in the past years. Most strains (up to 70%) showed resistance to cefalexin and erythromycin, and moderate sensitivity to other antibiotics (rifampicin, gentamicin, ofloxacin, cefalotin, amikacin). All strains examined were sensitive to gatifloxacin and levofloxacin.

Conclusion. Thus, among the circulating pathogens of diphtheria are found strains that have 100% sensitivity to new generation drugs, and are resistant to those used for a long time.

APPLICATION OF ANTIBIOTICS IN THE NATIONAL ECONOMY AND ITS DANGER TO HUMANS (REVIEW)

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Introduction. In the modern world, antibacterial drugs are often used in crop production and animal husbandry, because of what it gets into finished products. This poses a great danger to people who eat meat, eggs, etc., which even WHO mentions.

Aim. Systematization of data on the problem of the application of antibiotics in the national economy.

Antibacterial drugs are actively used not only in medicine to treat humans, but also in livestock to accelerate the growth of livestock and poultry and prevent diseases. As a result, they remain in the muscle mass (meat), get into milk and eggs. For the same purposes, antibiotics are used in fish farming and plant growing. Also, unscrupulous manufacturers use antibiotics to treat seafood, fruits and vegetables to transport them for long distances and to store longer.

According to WHO, antibiotics, officially used in veterinary medicine, 2 times more drugs used to treat people. As the inspections show, more remnants of veterinary antibacterial drugs are found in ready-made meat, fish and plant products.

With the correct and rational application of antibiotics under the supervision of a doctor, you can cure a large number of diseases, and this is their main advantage. But the abuse of antibacterial drugs, their frequent and unlimited application can cause serious side effects:

- a person develops antibiotic resistance (getting used to an antibiotic): the drug that he received earlier, ceases to act on bacterial infections, the patient is deprived of effective means of treatment of diseases, because of which it is necessary to use a stronger medicine;
- the ability of the body to resist infections decreases;
- the traditional pathogens of infectious diseases reduce the sensitivity to drugs;
- cases of allergic reactions in humans become more frequent;
- disturbed microflora of the gastrointestinal tract.

According to the forecasts of the World Health Organization (WHO), by the year 2050, annual mortality due to antibiotic resistance will amount to 4,730,000 in the Asian region, 4,150,000 in Africa, 390,000 in Europe, 392,000 in South America, 312,000 people in North America.

WHO proposes measures to combat the uncontrolled application of antibiotics:

- use antibiotics only for the treatment of animals under veterinary control;
- timely vaccinate animals so that the need for antibiotic use is reduced;
- comply with hygiene requirements at all stages of production of food products of animal and vegetable origin.

The positions of different countries around the world on the use of antibiotics in the national economy vary. In China says that antibiotics will be used in production, until the population of the country can not fully provide enough products.

The countries of the European Union in the 70s of the last century abandoned the use of antibiotics as growth stimulants and fattening animals. They replace it with alternative means such as probiotics. In a number of countries in the European Union (Sweden, Denmark), the use of antibiotics is virtually excluded in poultry farming. But antimicrobial agents are allowed for the treatment and prevention of diseases of livestock and poultry only for certain indications and when monitoring the release and use of these funds by veterinarians.

In the US, antibiotics are actively used in animal husbandry to reduce the incidence of animal infections and reduce the risk of transmission to humans. American livestock experts criticize the position of the European Union, where fodder antibiotics are banned.

In Ukraine, antibiotics are used to treat and prevent diseases of animals, birds, fish and bees. Continue to use fodder antibiotics for large and small cattle, pigs and poultry. The standards for the content of residual amounts of antimicrobial substances in food products are basically in line with international standards. The regulations set the maximum permissible levels for 56 antibiotics that comply with the regulations of the European Union.

According to the WHO and Ukrainian inspections on consumer protection issues, over the past 10 years the proportion of antibiotics detected in food has decreased from 1.5% to 0.5%. Of these, the highest levels are found in milk and dairy products (up to 1.1%), the lowest - in baby food (less than 0.1%).

Conclusion. To date, the problem of safe levels of antibiotics in food is not solved. To reduce the risk of contamination of food raw materials with antibiotics is possible only with an effective control system at all stages - from production to sale. Therefore, strict requirements are imposed on methods of mass control of harmful compounds in raw materials and products of animal origin - a laboratory test should ensure high accuracy of the results obtained.