

Modernization of treatment methods for the use of antibiotics in maxillofacial surgery

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Abstract: Antibacterial therapy is the most common and effective treatment for many diseases in the field of facial surgery, including facial abscess and cellulitis. The effectiveness of the method in dental practice is discussed. The studies were conducted on 55 patients aged 18 to 45 years, of which 39 men (70.9%), 16 women (29.1%). Patients of the clinic of the Bukhara Medical Institute “Maxillofacial surgery and “reconstructive plastic surgery”” in February-April 2025 conducted a study to determine sensitivity to antibiotics.

Keywords: antibacterial therapy, antibiotic, sensitivity, complex treatment, disc diffusion method, modernization.

Introduction

Currently, facial surgeons are faced with the situation of “prescribing antibiotics to patients” when treating every patient. Antibacterial therapy is the most common and effective method of treating many diseases in the field of facial surgery. This is due to the high efficiency and relative harmlessness of the method. Analysis of drugs to determine sensitivity to antibiotics improves complex treatment of patients with maxillofacial surgery. Antibiotic sensitivity testing is used not only in facial surgery, but also in the treatment of many other diseases. It is better to begin treatment of any disease for which antibacterial therapy is used by determining the sensitivity of pathogenic microorganisms to antibiotics.

Modern pharmaceuticals have provided medical workers with a wide selection of antibacterial drugs. Often more than three different drugs are used to treat the same pathogen.

However, it is not always possible to immediately choose the right medicine. This is due to the presence of concomitant diseases in patients and the impossibility of taking medications individually. Like any laboratory test, an antibiotic sensitivity test is completely safe and does not cause discomfort or pain. A sample of biomaterial is taken from the patient and then tested in the laboratory.

Purpose of the study

Analysis to determine sensitivity to antibiotics, achieving faster and safer treatment of patients by choosing the most effective drug in each individual case.

Materials and methods

The study was conducted on 55 patients aged 18 to 45 years, of which 39 men (70.9%), 16 women (29.1%) in the clinic of the Bukhara Medical Institute “Maxillofacial surgery and reconstructive plastic surgery”. In the months of February-April 2025, in order to determine sensitivity to antibiotics, it was carried out using the “diffusion disk” method.



Results of the study

The study was conducted on 55 patients aged 18 to 45 years, of which 39 men (70.9%), 16 women (29.1%) in the clinic of the Bukhara Medical Institute "Maxillofacial surgery and reconstructive plastic surgery, A". The study was conducted in February-May 2024 to determine sensitivity to antibiotics and was conditionally divided into 2 groups: 1 - main group, consisting of 35 patients (25 men, 10 women), and 2 control groups - 20 people each. (12 men, 8 women).

In the main group of patients, the disk diffusion method was used to determine sensitivity to antibiotics. In this method, a bacterial suspension of a specified density (usually equal to the McFarland turbidity standard of 0.5) is applied to determine sensitivity. the surface of the agar in a Petri dish, and then add a certain number of disks containing antibiotics.

Diffusion of the antibiotic into the agar leads to the formation of a zone around the disks that inhibits the growth of microorganisms. After overnight incubation of the dishes in a thermostat at a temperature of 35 o -37 o C, the result is calculated by measuring the diameter of the zone around the disk in millimeters. The disk method was qualitative and made it possible to assess the sensitivity or resistance of the microbe to the drug.

Conclusion

Antibacterial therapy in facial surgery by determining the sensitivity of bacteria to antibiotics determines the following effective results in patients; determine the most effective drug, exclude the "attachment" of pathogenic microorganisms to therapy, replace the drug due to its ineffectiveness or allergic reactions; improving the patient's social status by reducing the treatment period.

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