

INDICATIONS FOR THE USE OF ANTIBIOTICS IN STOMATOLOGICAL SURGICAL PRACTICE

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Abstract: This research study examines the main clinical indications for the use of antibiotics in stomatological surgical practice. It focuses on the role of antibiotics in preventing and managing infectious complications associated with dental procedures. Special emphasis is placed on high-risk patients, complex surgical interventions, and the presence of active odontogenic infections. The importance of rational antibiotic use and adherence to clinical protocols is highlighted to ensure effective treatment outcomes and reduce the risk of antimicrobial resistance.

Keywords: dental surgery, antibiotic indications, odontogenic infection, prophylaxis, high-risk patients, antimicrobial resistance, infection control

Antibiotics play an important role in stomatological surgical practice, particularly in the prevention and management of infectious complications. Dental procedures such as tooth extractions, implant placement, and treatment of odontogenic infections may involve the risk of bacterial contamination and postoperative infection. Therefore, the use of antibiotics is often indicated in specific clinical situations to ensure safe and effective outcomes. However, antibiotic administration should be based on clear clinical indications rather than routine use. Proper selection, timing, and dosage are essential to maximize therapeutic benefits while minimizing the risk of antimicrobial resistance. This thesis focuses on the main indications for antibiotic use in dental surgical procedures and their clinical significance.

The use of antibiotics in stomatological surgical practice is primarily based on clearly defined clinical indications. Antibiotics are recommended in situations where there is a significant risk of infection or when the patient's systemic condition increases susceptibility to complications. One of the main indications is the presence of acute odontogenic infections, such as abscesses, cellulitis, and spreading infections involving fascial spaces. In such cases, antibiotics are used as an adjunct to surgical intervention, including drainage and removal of the infection source.

Another important indication is prophylaxis in high-risk patients. Individuals with systemic diseases such as diabetes mellitus, cardiovascular disorders (including prosthetic heart valves), immunodeficiency conditions, or those undergoing chemotherapy are more vulnerable to infections. For these patients, antibiotics may be prescribed before surgical procedures to prevent bacteremia and serious complications like infective endocarditis. Antibiotics are also indicated in complex and traumatic surgical procedures. These include impacted third molar extraction, bone grafting, sinus lifting, and dental implant placement, especially when the procedure is prolonged or involves

extensive tissue manipulation. In such cases, the risk of postoperative infection increases, making prophylactic antibiotic use clinically justified.

In addition, postoperative complications, such as delayed healing, persistent inflammation, or signs of infection (pain, swelling, fever, purulent discharge), require antibiotic therapy. However, it is important to emphasize that antibiotics should not replace proper surgical technique and aseptic conditions. Their use must always be combined with adequate clinical management. The selection of antibiotics should be based on the most common oral microorganisms. Penicillin-based drugs, particularly amoxicillin, are widely used due to their effectiveness. In cases of allergy, alternatives such as clindamycin or macrolides are prescribed. The duration of therapy should be limited to the minimum effective period to reduce the risk of resistance.

In conclusion, antibiotics play a crucial role in stomatological surgical practice when used according to appropriate clinical indications. Their use is justified in cases of active infection, high-risk patients, and complex surgical interventions. However, irrational and excessive use of antibiotics can lead to serious consequences, including antimicrobial resistance and adverse drug reactions. Therefore, it is essential to follow evidence-based protocols, ensure accurate diagnosis, and apply antibiotics only when necessary. A balanced and rational approach will help improve treatment outcomes, enhance patient safety, and contribute to the global effort in controlling antibiotic resistance.

REFERENCES

1. Peterson L.J., Ellis E., Hupp J.R., Tucker M.R. Contemporary Oral and Maxillofacial Surgery. – 7th ed. – St. Louis: Elsevier, 2019.
2. Malamed S.F. Medical Emergencies in the Dental Office. – 7th ed. – St. Louis: Elsevier, 2015.
3. Кулаков А.А., Робустова Т.Г. Хирургическая стоматология и челюстно-лицевая хирургия. – Москва: ГЭОТАР-Медиа, 2019.
4. Афанасьев В.В. Инфекционные осложнения в стоматологии. – Санкт-Петербург: СпецЛит, 2017.