

Use of Antiseptics and Antibiotics in Periimplant

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Annotation: Effective use of antibiotics is also recommended in orthopedic and traumatic surgery to prevent the spread of infection. In addition to this established system, a new approach to antibiotic prophylaxis can reduce infection. Antimicrobial prophylaxis is especially important in cases of open fractures.

Currently, peri-implantitis, which is increasing in the world, is one of the main problems of implantology. Surgical intervention involves cleaning soft tissues with various materials and instruments. Dental implants are the right choice for replacing a missing tooth, but biological complications are rare.

At the implant-tissue interface, due to tissue dysfunction caused by surgical trauma, bacteria implanted during surgery may cause infection later.

Mainly *S. epidermidis*, as well as some strains are among them.

S. aureus tends to produce an extracellular polysaccharide matrix (biofilm) if they are added to foreign matter. The formation of body surfaces (biofilm) leads to destruction.

In that case, the almost impossible of these microorganisms is to remove the implant.

S. aureus and negative staphylococci (*S. epidermidis*) can be isolated from deep wound infections in 70-90% of cases. Systematic perioperative use of antibiotics is routinely performed in orthopedic and trauma surgery, the effectiveness of which is clearly proven. High levels of tissue protection are achieved through the use of antibiotics.

Surgery to prevent deep wound infection is probably associated with the removal of bacteria. In addition to Periimplantitis, systemic prophylaxis, clinical delivery methods of various topical antibiotics to reduce infection are used clinically. The degree of infection is indicated by (antibiotic-filled bone cement, antibiotic-impregnated collagen sponges, or polymethylmethacrylate beads). Complex use of antibiotics is beneficial. A high level of efficiency can be achieved around the implant without systemic poisoning. However, long-term use of low levels of various synthetic drugs used in treatment can be harmful and lead to the development of drug-resistant bacterial strains. Coating implants with gentamicin (PDLLA) derived from locally proven biologically degradable poly (D, L-lactide) in several studies and in the first clinical cases is an effective adjunct to high-concentration separation, implant-related prophylaxis, and may be harmless.

Effective use of antibiotics is also recommended in orthopedic and traumatic surgery to prevent the spread of infection. In addition to this established system, a new approach to antibiotic prophylaxis can reduce infection. Antimicrobial prophylaxis is especially important in cases of open fractures.

Reduces the number of infections one day after surgery. Not only one-time or short-term intake is possible, but the need for long-term effective treatment can counteract the risk of toxicity and bacterial growth, but can also reduce and reduce overall costs.

In the case of increased implantation, the rate of infection is more than 10,000 times (Zimmerli et al., 1982). Antibiotic therapy should only be given in conjunction with or after surgical decontamination. Bacteria have very little effect on the bactericide in the inactive phase.

Types of antiseptics include: iodine, alcohol, chlorhexidine gluconate, biguanide, phenol, mercury chloride, hydrogen peroxide, dyes. Antiseptics should be used to disinfect hands. Before surgery, it is used as a means of disinfecting the skin, immersing implants in antiseptic solutions, wound healing and dressings.

The principle of operation of the antibacterial coating: it contains an active substance embedded in the matrix and released from the coating during implantation, preventing bacterial colonization of the implant surface. It is adapted and can prevent postoperative infections. In patients with increased benefit of a coated implant, the risk of developing an implant-related infection rather than a defect is gradually reduced.

For example, in open cracks, in additional diseases, in immune disorders, special attention should be paid to the following. The cost of additional implants should be compared with the total cost of treatment,

including possible infections. Several technologies are available or being tested for this: PDLLA antibacterial agents, others recyclable, non-recyclable polymer coatings, antibiotics or antiseptics, and silver-based coatings can be used. This is done using technologies like Synthes. It may then be useful to use Schanz screws. In the prevention and treatment of implantation, the risk of infections is eliminated by antibiotic-coated implants.

Summary: •Significant reductions in implant-related infection in patients with gentamicin-coated implants were observed within the first two days.

• Due to the need for a more rapid antibiotic that is more effective than the local application system, it is advisable to deliver the application.

• Gentamicin-PDLLA coating is effective in preventing implant-related infections in patients.

• So far the results show that it is good. There are no infections in the treatment.

Bacteriostatic interfaces are the most modern i.e. the overall rate of infections is less than 5%.

• The shape of the implant to close and spread antibacterial cells, tissue is very important.

• Bactericidal interface implants Antibiotic-based treatments are likely to achieve high results in the future.

Implant-related prophylaxis and treatment The transmission of infections through antibiotic-coated implants is reduced.

Literature

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