

The role of oral antibiotics in preventing surgical infections.

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Abstract

Surgical site infections (SSIs) are a common complication that can occur after surgery. They are caused by the invasion of microorganisms into the surgical wound, resulting in inflammation and infection. These infections can lead to prolonged hospital stays, additional surgical procedures, and even death. The use of oral antibiotics is one approach to prevent SSIs, and this article will discuss their role in preventing surgical infections. Antibiotics are drugs that can kill or inhibit the growth of bacteria. They can be administered in various ways, including orally, intravenously, or topically. Antibiotics are used to treat bacterial infections, but they can also be used prophylactically to prevent infections from occurring. Prophylactic antibiotics are given before surgery to reduce the risk of SSIs.

Keywords: Oral antibiotics, Surgical Infections, prophylaxis, cephalosporins.

The use of prophylactic antibiotics in surgery has been shown to be effective in reducing the incidence of SSIs. The goal of prophylactic antibiotics is to achieve high concentrations of the drug in the surgical site before the incision is made. This ensures that any bacteria that may be present are killed or inhibited before they have a chance to cause an infection. Oral antibiotics are commonly used for prophylaxis in certain types of surgery. They are preferred over intravenous antibiotics because they are easier to administer and have fewer side effects. Oral antibiotics are also less expensive than intravenous antibiotics, making them a more cost-effective option. The use of oral antibiotics for prophylaxis in surgery is most effective when the antibiotics are given within one hour before the incision is made. The antibiotic should also have a long half-life, meaning it stays in the body for a long time, and should be able to penetrate the tissues in the surgical site [1].

The choice of antibiotic for prophylaxis depends on the type of surgery being performed. The most commonly used antibiotics for prophylaxis in surgery are cephalosporins, such as cefazolin or cefuroxime. These antibiotics have a broad spectrum of activity and are effective against many different types of bacteria. They are also well tolerated and have a low incidence of side effects. For certain types of surgery, such as colorectal surgery, additional antibiotics may be necessary. In these cases, a combination of antibiotics may be used to provide better coverage against the bacteria that are commonly found in the intestines. The use of oral antibiotics in combination with topical antibiotics, such as povidone-iodine, has also been shown to be effective in reducing the incidence of SSIs. Despite the proven effectiveness of prophylactic antibiotics in reducing the incidence of SSIs, there are concerns about the overuse of antibiotics. The overuse of antibiotics can lead

to the development of antibiotic-resistant bacteria, which are difficult to treat and can cause serious infections [2].

To prevent the development of antibiotic-resistant bacteria, it is important to use antibiotics only when they are necessary. This means that prophylactic antibiotics should only be used when there is a high risk of infection, such as in certain types of surgery. The duration of prophylactic antibiotics should also be limited to the perioperative period, which is the time around the surgery [3]. In addition to limiting the use of antibiotics, it is also important to use them appropriately. This includes choosing the appropriate antibiotic for the type of surgery being performed, ensuring that the antibiotic is administered at the appropriate time, and using the appropriate dose. The use of oral antibiotics for prophylaxis in surgery is an effective approach to preventing SSIs. Oral antibiotics are preferred over intravenous antibiotics because they are easier to administer, have fewer side effects, and are less expensive. The choice of antibiotic for prophylaxis depends on the type of surgery being performed, and the antibiotic should be given within one hour before the incision is made. The overuse of antibiotics can lead to the development of antibiotic-resistant bacteria, which can be difficult to treat and can cause serious infections. To prevent the development of antibiotic-resistant bacteria, it is important to use antibiotics only when necessary and to use them appropriately [4].

It is also important to note that while prophylactic antibiotics can help reduce the risk of SSIs, they are not a substitute for proper surgical technique and infection control practices. Surgeons and other healthcare professionals should always follow established guidelines for infection prevention, such as hand hygiene, proper sterilization and disinfection of

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instruments and equipment, and use of barrier precautions. Furthermore, patients should be educated about the signs and symptoms of SSIs and advised to seek medical attention promptly if they develop any signs of infection, such as fever, pain, redness, or drainage from the surgical site. Prompt recognition and treatment of SSIs can help prevent serious complications and improve outcomes for patients [5].

Conclusion

In summary, the use of oral antibiotics for prophylaxis in surgery is an important tool in preventing SSIs. When used appropriately, oral antibiotics can help reduce the risk of infections and improve patient outcomes. However, the overuse and inappropriate use of antibiotics can contribute to the development of antibiotic-resistant bacteria, highlighting the importance of judicious use of antibiotics and adherence to infection control practices. By working together, healthcare professionals and patients can help ensure that antibiotics are used appropriately and effectively to prevent SSIs and improve surgical outcomes.

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