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Prevent wound infection in time

Interest in hospital-acquired infections and the general debate have increased the awareness and even fear of wound infections. Doctors and medical staff are concerned about the incidence of resistant bacterial strains. Experienced infectious decease specialists warn uncritical use of antimicrobial agents, which has been very important for the development of resistant organisms. The prophylactic use of antibiotics can favor the development of resistant strains of bacteria. Also, awareness of the costs of wound infections has increased.

Wound management efficiency should be considered for both the individual and society. Overall, the evaluation also includes medical, psychosocial and economic factors. Society's point of view, it is significant to take into account increase in citizens' life expectancy, which is expected to continue to lengthen. At the same time, the number of people suffering on diabetes and circulatory diseases is expected to increase. Also, obesity and malnutrition on the other hand is expected to increase. Surgical procedures are made to increasingly older and ill people that in turn increases the risk of wound complications. All of these factors are expected to increase the number of patients wound.

It goes without saying that the best wound care is to prevent wound / ulcer formation. Some of the chronic wound diseases can be prevented with good care (eg. heart- and blood pressure medications and blood glucose levels is treatment level and the appropriate self-care of diabetic foot, and therapy of people suffering from venous edema and, if necessary, fixing the circulatory problems surgically. Exercise and a balanced nutrition will also be vital.

All the wounds cannot be prevented. Acute wounds caused by various traumas such as contusion, shear, shooting, animal bites, burn injuries and frostbite, as well as surgery. Even chronic wounds created good care despite some illnesses, such as, cancer ulcers and leg or foot ulcers. Also, not all pressure ulcers can be prevented. Research data on chronic ulcers prevention and treatment is, however, insufficient. Comparative studies of different methods for mutual superiority are very limited.

Main objectives of wound care are to support normal wound healing in every possible way and to prevent infection of the wound. Wound infections are prevented with the proper way of treatment, aseptic way of working, and selecting appropriate wound dressings. Infections and chronical ulcers are the most common complications of wound healing.

When planning local wound care the appropriateness of using antimicrobial products should be a considered. The clinical evidence obtained of local antimicrobials effectiveness is somewhat limited due to the variety of wound types and the difficulty to obtain a uniform population of patients. There are many different products available and more is continuously being developed. The evidence is based largely on the wound descriptions made by experts in the individual patient case study.

The factors affecting to the choice of the substances to reduce micro-organisms are: the special feature and the effectiveness of the substance, its toxicity to human cells, the opportunity to select resistant strains and allergenic property. Antimicrobial substances either kill or inhibit the growth of micro- organisms, distribution and metabolism so that the infection or biofilm does not occur. Biofilm consists of microbial, which may be one or more species. More than 99.9% of the bacteria grow in biofilm. The

biofilm is found to reduce the efficacy of the active substances, so the formation of biofilm should be inhibited with preventive treatment.

Silver in various forms in wound care products has been on the market for several decades. The development of resistance bacteria, particularly for silver products is feared. Risk for resistance does not arise, if the silver ions are locked to the product. Silver ions prevent cell division and interfere with the metabolism of microbes. When exudate is absorbed into the dressing microbial growth is inhibited, the microbes die and dry out. Silver ions do not directly kill the microbes.

European Wound Management Association (EWMA) report wound infection treatment (2006) mentions about the use of silver following: ”long-term efficacy of the preparation of silver ions depends on the bioavailability, and then a carrier is an extremely important task to ensure that the silver is released slowly and for a long time. Most of silver-containing dressings have a high active substance content. Silver-containing dressings development has in some cases allowed the controlled release of silver, secured the impact and at the same time dominated the possible toxicity and side effects.” The report is almost ten years old, and new products as well as studies have become well after.

In Clinical practice guidelines of European Pressure Ulcer Advisory Panel (2014) provides guidance on the use of silver products saying: ”Consider the silver-impregnated dressings use of pressure ulcers that are clinically infected or heavily colonized.”

The individual’s point of view, it is very important that in initiation of the treatment, the risk of wound infection is assessed, whether the wound is acute or chronic. If the patient has the slightest risk of getting an infection or have ever suffered from infections, one should consider placing the local antimicrobial product. The aim is reduction of number of harmful microbes.

The risk of wound infection grows with increased bacterial growth, the contact with soil or other dirt, foreign objects in the wound, and the wound in the example, if the wound is close to the anus. Preventive local antimicrobial therapy should be considered, when the wound is large or deep, it has increased necrotic tissue of the wound blood circulation is poor, the surgical wound has been reopened or in case of prosthesis surgery. The product should be safe, effective, easy to use and affordable.

An infected wound to cause significant harm to the patient, prolonging the healing, causes pain, and infection may result in permanent damage to the patient. In addition, the treatment of wound infections causes significant costs to the patient and society. Therefore, when planning local treatment of the wound patients and choosing the correct products, one should pay special attention to the prevention of wound infections.

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