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Topical Antiseptic Ointments

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Abstract:- Topical Antiseptic ointments are the thick, viscous & oily type preparations which are directly applied in to our skin by rubbing it, applying an antiseptic ointment can help to protect skin and prevent drying out, These ointments are applied directly to the wound to reduce the risk of Infection and promote healing. Antiseptics ointment are biocidal products capable of killing or suppressing the growth of microorganisms In living tissue such as skin, skin is the very largest & primary protective organ, functions of skin like, protection, sensation, mobility, regulation of temperature, immunity, endocrine & exocrine activity. These antiseptic ointments are should have some ideal properties like, it should non be irritant to the skin & tissue, rapid acting, microbicidal activity should be more, non Sensitizing etc. These ointments are prepared by Trituration method or fusion method. Peoples who are Suffering from conditions like, allergic reaction, severe burns, large areas of broken skin, and infants are should not use this antiseptic ointments.

I. INTRODUCTION

Topical medications are medications that are applied directly to the skin or specific parts of the body. Topical medicines include several categories such as ointments, foams, gels, emulsions and creams that are most often applied to body surfaces, such as the skin or mucous membranes, to treat conditions. Many topical medications are applied to or directly on the skin. In addition to being applied to the surface of the skin, topical asthma medications can be inhaled or administered to tissues other than the skin, such as the connective tissue on the surface of the eyes, ears, or teeth.In order to distribute numerous pharmaceuticals, pharmacists use the skin, one of the body's largest and most superficial organs. The effects of this system are typically localized to particular body positions. Herbs have been used externally to treat wounds since ancient times to reduce inflammation or to relieve pain. Today, a considerably wider range of applications for topical medication delivery systems are being explored, from smoking cessation to cosmetic uses.

II. ANATOMY OF SKIN

The largest and most important protective organ of the body is the skin, which covers its entire external surface and acts as a first-class physical barrier against the environment. Its functions include regulation of body temperature and protection against bright (UV) light, damage, disease, pathogens and harm. In addition, the skin supports general homeostasis, palpable vitality, regulation of small fluid accidents and safe protection. Skin is also incredibly flexible, performing specific functions in many important areas and varying in thickness. The life structures of the skin, counting its structure, reason, embryology, blood, lymphatic, and nerve supply, surgical, and clinical noteworthiness, will be secured in this article.

III. FUNCTIONS OF SKIN

- Protection
- Sensation
- Mobility
- Endocrine & Exocrine activity
- Immunity
- Regulation of temperature

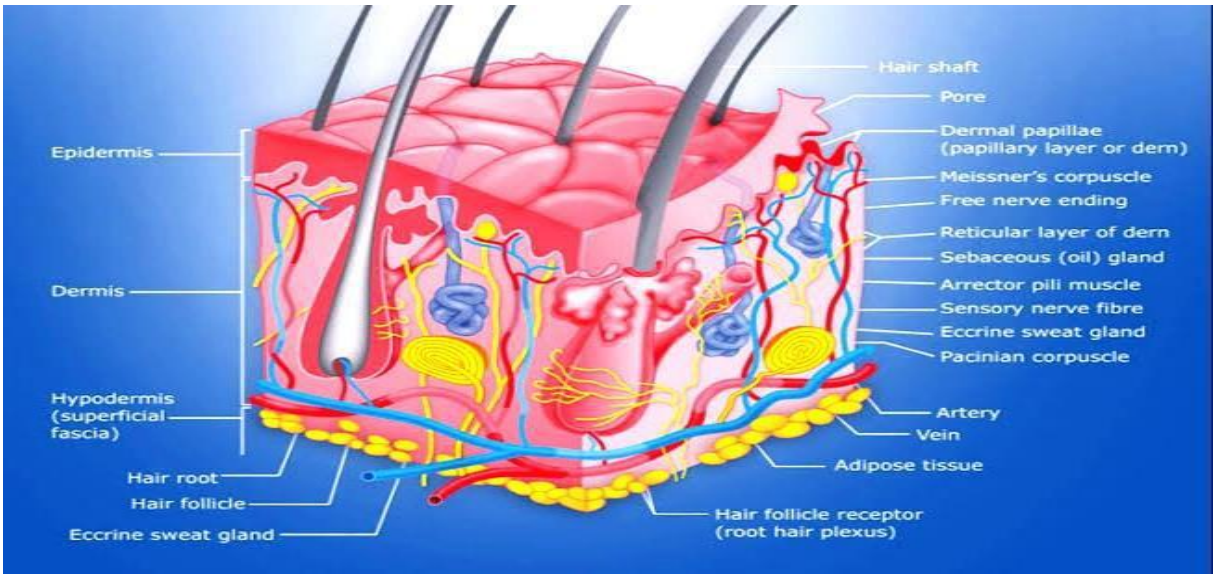

Fig. 1: A NEAT LABELLED DIAGRAM OF SKIN

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IV. WHAT DO YOU MEAN BY ANTISEPTICS

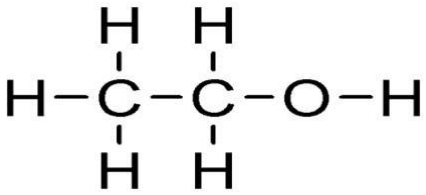
Biocides are called as an antiseptics, have the ability to kill or prevent the growth of bacteria in living tissue, such as the skin. Wide and rapid bioavailability against bacteria, fungi and viruses, low toxicity or damage to healthy tissues, and low absorption into the systemic circulation after topical treatment are characteristics of an ideal antiseptic. Disinfectants come in several different preparations and compositions, and they may also contain one or more active ingredients.Pre-operative preparations, surgical scrubs, antibacterial hand washes and toothpaste, mouthwash, lotions, creams and tinctures. They are often used to treat skin diseases and wounds, as well as for daily skin hygiene, including hand washing and applying liniments. They are often applied to the skin before surgery to prevent post-operative infection. Infections in the upper layer of the skin are treated with topical antiseptics, while wounds and inflammations in the deeper layers of the skin are more often treated with antibiotics. In these circumstances, the goal is to reduce microbial colonization of the wound or skin surface without damaging living tissue or interfering with the healing process.

V. CHEMICAL STRUCTURE & USES OF COMMONLY USED ANTISEPTICS

A. ETHANOL

- **USES**: Ethanol is often used in various products that come into direct contact with human skin, including various household products, cosmetics, pharmaceuticals and medical products such as hand sanitizers used in the workplace. There is conflicting information in the scientific literature regarding the safety of such topical alcohol treatments, but a current risk assessment of dermal and oral administration of ethanol is necessary.

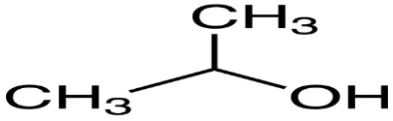
- **STRUCTURE**:



B. ISOPROPYL ALCOHOL

- **USES**: Topical isopropyl alcohol can prevent bacterial skin infections from minor scratches or cuts. Isopropyl alcohol is used in treatment to prevent infections caused by needles. Isopropyl alcohol is also used topically to relieve mild muscle pain. Isopropyl alcohol either kills or stops the growth of bacteria on the skin.

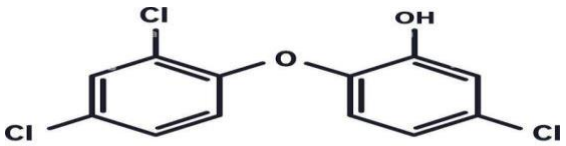
- **STRUCTURE**:



C. TRICLOSAN:

- **USES:** An antiseptic drug is triclosan. It is used to treat a number of bacterial and fungal skin problems. It obstructs the fungus' or bacteria's cell membrane functions. As a result, it eliminates the bacteria and prevents the spread of illnesses. It is frequently used as a preservative and antibacterial agent in personal care products like lotion, soap, and skin creams

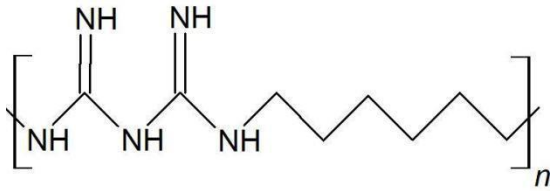
- **STRUCTURE**



D. POLYHEXANIDE:

- **USES**: Polyhexanide has a healing effect on wounds, reduces the number of bacteria in wounds and prevents the development of bacterial resistance. It demonstrates clinical efficacy and safety when applied to the skin, wounds and mucous membranes, as well as in vitro efficacy. Polyhexananide antiseptic has been shown to be more bactericidal and tissue compatible than other antiseptics.

- **STRUCTURE**:



VI. DIFFERENT TYPES OF ANTISEPTIC TOPICAL PREPARATIONS

- **Ointments:** These are thick, viscous & greasy preparations, which are applied on the skin.
- **Cream:** These are viscous & Non greasy to mildly greasy preparations, which are applied on the skin
- **Lotions:** These are thin & non greasy preparations, which are applied on the skin.
- **Gels:** These are thick & non greasy preparations, which are applied on the skin.
- **Balms:** These are very thick & waxy preparations, which are applied on the skin.

VII. ANTISEPTIC OINTMENT

Ointments' thick, oil-based formulations, which help to trap moisture, may be effective for severely dry skin. You may, for instance, apply a thicker cream or lotion on your face and the rest of your body while using an ointment on your hands and feet.After often washing your hands, applying an ointment can help protect skin and prevent drying out.They contain active ingredients that help destroy or prevent the growth of bacteria, fungi and other microorganisms. These ointments are applied directly to the wound to reduce the risk of infection and promote healing.

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Fig. 2: OINTMENT APPLYING METHOD ON SKIN

VIII. COMMON ACTIVE INGREDIENTS OF ANTISEPTIC OINTMENT:

- **Bacitracin:** Utilized frequently in conjunction with other antibiotics and effective against specific germs.
- **Neomycin:** A multipurpose antibiotic that guards against bacterial infection.
- **Hydrogen Peroxide:** An oxidizing substance that aids in wound cleaning and infection prevention.
- **Polymyxin B:** Another type of antibiotic that works against many types of bacteria and is usually given in combination with other medications.
- **Povidone-Iodine (Betadine):** A broad spectrum of bacteria can be killed by an antiseptic with an iodine component.

Fig. 3: A TYPICAL ANTISEPTIC OINTMENT

IX. IDEAL PROPERTIES OF OINTMENTS:

- It should be Non irritant to skin
- Microbicidal activity should be more
- It should be Non staining & good odour
- Non sensitizing
- It should Active against all pathogens
- Rapid acting
- It should be Non irritant to tissue

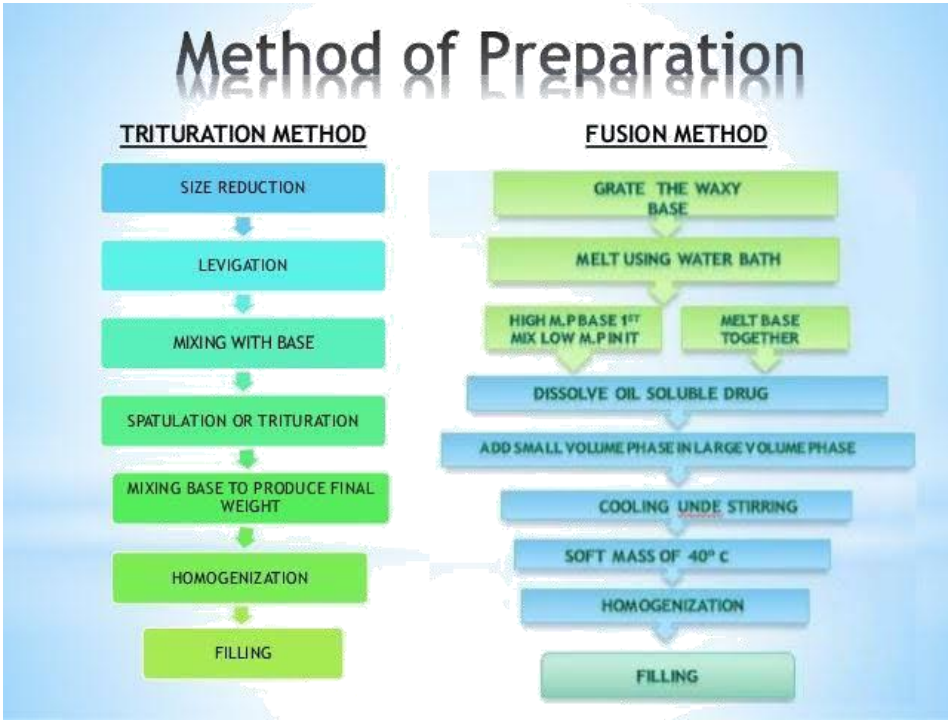

Fig. 4: METHOD OF PREPARATION OF OINTMENT

X. PEOPLE WHO SHOULD NOT USE ANTISEPTIC OINTMENTS

- **Allergic reaction**: The antiseptic ointment should not be applied by anyone who is known to be allergic to any of its components. Itching, redness, swelling, and breathing difficulties are examples of typical allergic reactions.
- **Severe burns:** Instead of depending entirely on antiseptic ointments for serious burns, it's critical to seek prompt medical assistance. For an accurate assessment and treatment, professional medical care is required.
- **Children and infants**: For newborns or young children, several antiseptic ointments might not be safe to use. Before using any ointment to child wounds, parents or other caregivers should speak with a pediatrician.
- **Large areas of broken skin:** The use of an antiseptic ointment may not be successful in preventing infection if a significant portion of the skin is injured. In such circumstances, medical assessment and treatment are required.

XI. CONCLUSION

Topical antiseptic ointment is essential to speed wound healing and prevent infection. The active ingredients in these ointments are effective in destroying or preventing the growth of bacteria and other germs on the surface of the skin. They aid in the body's natural healing process and wound cleansing, making them especially useful for minor burns, scrapes and cuts.Topical antiseptic ointments can help treat wounds, but they should not be used in place of thorough wound cleansing and a doctor's visit when necessary. Seeking medical advice is still essential for best results for severe or infected wounds.Topical antimicrobial ointments, when used judiciously in conjunction with proper wound care, are tools that help maintain skin health and prevent minor wound infections.

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