PDF - BACTERIAL COLONIZATION ON HUMAN SKIN - researchcub.info

ABSTRACT

The antibacterial activity of three type of medicate soap on staphylococcus aureus isolated from wound infections was conducted. Fifty individual with would infection within the age range of 9-73 years were sampled. Swabsticks were used to collect specimens from wound infection. each swabstick was streaked separately over plates of nutrient and macconkey agar and later incubated at 37^0c. out of the fifty (50) individuals sampled 25(50%) were mostly infected with staphylococcus aureus followed by pseudomonas acruginqu (22%) staphylococcus epidermis (10%) least by Exchericha coli b(12%) The organisms occur within the age range 9-13 years with 8 (16%) followed by 14-18 years 4(8%) next by the age range of 19-23 years 3(6%) followed by 24-28 years with 2(4%) followed 24-28 years with 2(4%) and the heart in the age range are 29-33,34-38,39-43,44-48,49-53,54-58 64-68 with 1(2%) each while there was no isolation in the age range 59-63. The study also revealed that all the staphylococcus aureus isolated were sensitive to the three medicated soap. The means of inhibition was highest in Aleppo medicated soap with 12.92 mm followed by temperate medicated soap with 11.2mm and least in carat medicated soap with 10.56 mm. Also the staphylococcus aureus isolated were also sensitive to the commercial autibutics used as couplers the means zones of inhibition was highest in ampiclox with 12.8 mm followed by gentamyain with 12.04 mm and the heart in penicillin with 10.4 mm. there was a close relationship in the zenes of inhibition between the three medicated soap and the commercial antibiotics used as coconutrels. The result showned that medicated soaps were effective against staphylococcus aureus involved in would infection in humans and are comparable to commercial antibiotics. There fore medicated soap can be used in cleaning the skin particularly in the affected part of the skin during the time one has hurt or cut on the skin.

TABLE OF CONTENTS

LIST OF TABLE

other organisms

Table 2

Age distribution as well as percentage of each isolated organisms

Table 3

Preliminary identification of bacterial isolates

Table 4

Biochemical test carried out for identification of bacterial isolates

Table 5

Sensitivity test using three medicated soap and three antibiotics indicating their zones of inhibition.

INTRODUCTION

According to pelage et al (1986) antibacterial activity is the ability to either destroy bacteria or inhibit their growth. This is significant with respects to the human body in preventing sepsis and skin infections. Also Derland (1981) states that medicated soap have the germicidal substance like chloroxyhlenol potassium mercuric iodide, trichlorocarbanlide etc. incorporated into them, in order to enhance their antibacterial activity. These germicide substance are normally added in a specified amount and percentage of the substance used are always stated on the soapcase or inside the lesflet which certains the information on how to use the soap for various purposes.

Anon (1964) states that soap may be defined as a chemical compound resulting from the interaction of fathy acids oil and caustic soda (alkali) possesing the characteristic soap like properties of detergents, surface tension lowering wetting and emulsifying power and gel formation. All fatty oils and fats. Are mixtures of glycoside compounds (erters) of trihydric alcohol, glycosides and some fatty acids such as plasmatic acid the chemistry of soap manufacturing may be expressed the following equation which is know as saponification (Anon (1964).

$H_zCocoG_5H_{31})_3$ + Na 0H $Naoco_{15}H_{31}$ $(_zH_{31} + c^3H^5(oH)^3$

Palliation caustic Soda sodium palurtate glycerion

Amon (1964) further explain that a bactericidal soap cernirts existentially of the following 0.1 to 3% weight based on the total weight of the soap.

0 to 10% by weight based on the total weight of the soap in a compound of formular

R –Co-N_1-CH_2C00H

CH_3

Here R represents an alkyl or alkenye group of 8 to carbon atoms.

According to Johnson (1978) antibacterial soap may include 2,4,4,trichloro 2,2 hydroxydiphenyl in an amount 0.05 to 5% by weight and at least one phosphorus oxyacid. Phosphorus oxyacid salt phosphoric ester is represented by

(R_1(oCH,CH_2)

R_2

Where R_1 in ($_8$-20 alkyl, R_2 is hydrogen or methyl and is (1-10). R_1 is the same group as R $_2$ or H alkali metal and n is H or alkali metal. Such a soap has a wide range of antibacterial activities and marked resistance of discoloration upon exposure to sunlight (Kaw,1981) another invention relates to an autimicrobial composition consisting of ammoniated zinc sulphate optionally formulated into sufficient formulation and toilet bars. Medicated soap incorporate in their composition germicidal agent which include hexachlorophene mercuric which trichoran, trichlorocarbaucide .

Sykes (1958) described sterilization as the complete destruction of all living matters. In medical sense, it is often used in a restricted sense to refer to the destruction of pathogenic organisms only.

According to William (1979) wound is defined as disruption of cellular and anatomic continuity while its healing is the restoration of continuity. That biological procen can only be accomplished by regeneration, cell proliferation and collage production which can be alleviated washing the would surface especially with medicated soap which due to its concert of pherolic compound help in keeping off organisms like staphylococcus aureus escherichia coli and Pseudomonas aeruginosa always from the would to a certain stage. Wound can also result when the operative barrier of the skin is breached by traumatic invasion or whether it is caused by trauma or internationally by surgery. The open area is susceptible to microbial invasion and once a would has become infected pus form in the injured area resulting to wound abbess.

Baker et al decried antisepsis as the most convenient way of preventing infection usually by

inhibiting the growth of bacteria. And most disinfectant when suitably diluted have the artixeptic action. Different method are employed for the destruction of bacteria or for getting rid of them and those method can be conveniently divided into chemical physical and mechanical methods.

Baker et al (1985) explained that chemical agent function as a sterilizing agent by the following lethal mechanisms

1. Disruption of the cell membranes
2. Interfering with orgymatic systems of the organisms emzyme poison)
3. Co-aqulation of protein
4. Oxidation

1.1 AIMS AND OBJECTIVES OF THE STUDY

1. To isolate staphylococcus aureus from would infection
2. To determine the artibacterial activity of three medicated soap on staphylococcus aureus isolated from wound infection.

1.2 STATEMENT OF PROBLEM

Since Dorland (1981) stated that medicated soaps have germicidal substances like chloroxylenol pothaium, mercuric widide trichlorocarberihide etc incorporated into them in order to greatly their antibacterial activity. It is therefore necessary to investigate the artibaterial activity of three medicated soap (Asepos carat and temperate) on staphylococcus aureus isolated from wound inflection.

1.3 HYPOTHESES

Medicated soap have antibacterial activity

Medicated soaps have no artibaterial activity.

1.4 JUSTIFICATION OF THE STUDY

The result of the project work will indicate the antibacterial activity of medicated soap. And if favourable, then medicated soap can be used for washing the surface of manor wound before the application of further medication

1.5 LIMTATION OF THE STUDY

The study is limited to three types of medicated soaps which are:

a. Asepso medicated soap

b. Carat medicated soap

c. Tempovate medicated soap

BACTERIAL COLONIZATION ON HUMAN SKIN