sterilin

CHLORHEXIDINE GLUCONATE STUDIES

Sterilin – Sterile aqueous solution 0.05% chlorhexidine gluconate

- To reduce post-operative infections in patients by cleaning wounds and cleaning when performing sutures (Colombo and al, 1987).[1]
- To contro the infection of existing wounds by the irrigating them (Carrier-Clerambault and al. 1978 & Gerard and al. 1979).[2, 3]
- To clean and sanitize burns (Denton, 1991).[4, 5]
- Urethral antiseptic proven to prevent urinary tract infections (Miller and al. 1960, Gillespie, 1962).[6, 7]
- For its antimicrobial efficacity against a wide range of Gram-positive and negative organisms (Morrison, 1989).[8]
- For it's fungicidal, virucidal, bactericidal action in the presence of blood (Calma and Murray, 1956).[9]
- For it's low toxicity on living tissues (Morrison, 1989).[8]
- For it's immediate bactericidal action that surpasses other bactericidal agents (Denton, 1991).[4, 5].
- For it's residual effect that prevents the immediate regrowth of bacteria (Denton, 1991).[4, 5]
- For optimal antimicrobial activity at skin pH between 5.5 and 7.0 (Denton, 1991).[4, 5]

Sterilin with alcohol - Sterile aqueous solution 0.05% chlorhexidine gluconate and 4% isopropylic alcohol. U.S.P.

- Particularly suitable for the final step of preparing the skin of a surgical site. The area to be kept wet for at least 2 minutes (Denton, 1991).[4, 5, 10]

1 Colombo, AA. Perotti F, Boriolo P and al. Chlorhexidine in prophylaxis of surgical wound infections. *Minerva chir* 1987; 42: 1999-2002 https://www.ncbi.nlm.nih.gov/pubmed/3448550

2 Carrier-Clerambault,R and al. Traitement des infections chirurgicales and urologiques par la chlorhexidine. *Mediterrannee Medicale* 1978; 164: 61-63

3 Gerard T, Thirion Y, Schernberg F and al. Utilisation de la chlorhexidine dans le traitement des infections osseuses and articulaires. *Ann. Med. Nancy* 1979; 18: 1385-1389.

4 Denton, GW. Chlorhexidine. In: Block, S. ed. Disinfection, sterilization, and preservation. 5th ed. Lippincott Williams & Wilkins; Philadelphia, PA. 321-336. https://books.google.ca/books?id=3f-kPJ17_TYC&printsec=frontcover&dq=Disinfection,+sterilization,+and+preservation.&hl=fr&sa=X&ved=0ahUKEwj9ucTJnf7RAhWI0YMKHWdACdsQ6AEIHTAA#v=onepage&q=chlorhexidine&f=false

5 Chlorhexidine and wound cleansing. In: Tissue Viability, the prevention, treatment and management of wounds. By Sylvie Hampton, Fiona Collins & al. Whurr Publishers, London and Philadelphia. 2004, 148-151 https://books.google.ca/books?id=9ISX2sD0_sMC&pg=PR7&lpg=PR7&dq=Tissue+Viability,+the+prevention,+treatment+and+management+of+wounds.&source=bl&ots=19dRS0njDB&sig=M70X9mrY7hr5vKCON1JpS3imuEI&hl=fr&sa=X&ved=0ahUKEwimge34nP7RAhXJqlQKHSSmCpoQ6AEIXzAJ#v=onepage&q=chlorhexidine&f=false

6 Miller A and al. Prevention of urinary tract infection after prostatectomy. *Lancet* 1960; 275: 886-888. http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(60)91954-1/abstract?cc=y=

7 Gillespie WA, Progress in the control of hospital cross-infection. *Public Health* 1962; 77: 44-52. http://www.publichealthjrnl.com/article/S0033-3506(62)80077-8/abstract

8 Morrison M, Nursing Management of wounds, 2nd ed. London: Mosby 1989.

9 Calma RM and Murray J, Antiseptics in midwifery. *Br. Med*. J. 1956; 2: 200-204. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2035068/pdf/brmedj03165-0013.pdf

10 Brown TR, Ehrlich CE, Stehman FB, and al. A clinical evaluation of chlorhexidine gluconate spray as compared with iodophor scrub for preoperative skin preparation. Surgery, Gynecology and Obstetrics. 1984;158: 363–6. https://www.ncbi.nlm.nih.gov/pubmed/6710300

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sterilin

Recommandation

Clean the wounds with a solution of low toxicity, either with a physiological saline (**Irrigo**) or sterile water. The use of topical antiseptics should be reserved for wounds that are not curable or those whose bacterial load is more significant than stimulating healing.

Discussion

In vitro studies have identified the toxicity of many topical antiseptic agents as outlined in the previousreview (see table) below. To prevent tissue damage, in wounds that have the ability to heal, a physiological saline (**Irrigo**) or sterile water. are recommended as cleaning agents. If the wound is not curable and the bacterial load is greater than the tissue toxicity, we can use the antiseptics (**Sterilin**) to dry the surface of the wound and decrease local bacterial proliferation. This strategy can also be significant if a deep infection or osteomyelitis is present. Once the deep infection has been controlled, we cannot use toxic solutions. Interactive wet dressings will promote healing and optimal preparation of the wound bed.

Chlorhexidine	Active against Gram-positive and negative microorganisms, and not very effective on the tissues.
Hypochlorite solution	High pH causes skin irritation. The preparations buffered can eliminate Gram-negative microorganisms.
Hydrogen peroxide	Exfoliating agent while being effervescent. May harm the fabric of healthy granulation and can form gaseous embolisms if introduced in deep sinuses.
Mercury chloride	Bacteriostatic agents active against gentian violet, species Gram-positive species only. May be mutagens and may have systemic toxicity.
Cetrimide (quaternary ammonium)	Good detergent, active against Gram-positive and negative microorganisms but contains a high tissue toxicity.
Acetic acid (0.5% to 5%)	Low pH, effective against Pseudomonas species, can eliminate S. aureus.
Povidone-iodine	Broad spectrum of activity, although reduced in the presence of pus or exudate. Toxic in extended use or on large surfaces.

Inspired/Extract from the reference: Recommandations des pratiques exemplaires pour la préparation du lit de la plaie: Updated 2006, PAR R. Gary Sibbald, MD, FRCPC; Heather L. Orsted, IA, BN, ST, MSc; Patricia M. Coutts, IA; David H. Keast, MSc, MD, FCFP, p.79-80.