Povidone-iodine solution

- SKIN ANTISEPSIS PRACTICES FOR CENTRAL NEURAXIAL BLOCKADE
- Ventriculoperitoneal Shunt Surgery in Pediatrics: Does Preoperative Skin Antisepsis with Chlorhexidine/Alcohol Reduce Postoperative Shunt Infection Rate?
- Effect of 0.5% povidone-iodine on the nasopharyngeal and oropharyngeal viral loads in patients with COVID-19: A double-blind placebo-controlled randomized clinical trial
- Prevention of Surgical Site Infection Following Open Spine Surgery: The Efficacy of Intraoperative Wound Irrigation with Normal Saline Containing Gentamicin Versus Dilute Povidone-Iodine
- The effectiveness of prophylactic antibiotics and betadine skin preparation on cranial cutaneous Cutibacterium acnes - A prospective study
- Innovative Microscope Drape to Mitigate Particulate Dispersion During High-Speed Drilling
- Technical Case Report of a Cranioplasty With ex vivo Frozen Ostoblastic Bone Graft From Large Skull Metastasis
- Review: Perspective on ocular toxicity of presurgical skin preparations utilizing Chlorhexidine Gluconate/Hibiclens/Chloraprep

Povidone iodine solution is a widely used antiseptic solution that contains a complex of povidone (polyvinylpyrrolidone) and iodine. It is known by various brand names, with Betadine being one of the most recognizable. Povidone iodine has broad-spectrum antimicrobial properties and is effective against bacteria, viruses, fungi, and some protozoa.

Here are some common uses and characteristics of povidone-iodine solution:

Wound Disinfection: Povidone-iodine solution is commonly used to clean and disinfect wounds, cuts, and abrasions. It helps to prevent infections by killing or inhibiting the growth of microorganisms on the skin.

Surgical Site Preparation: Before certain medical procedures and surgeries, healthcare professionals may use povidone iodine to disinfect the skin at the surgical site to reduce the risk of postoperative infections.

Minor Skin Infections: Povidone iodine can be applied to minor skin infections, such as bacterial or fungal infections, as part of a treatment regimen.

Vaginal Antiseptic: In gynecology, povidone iodine solution may be used as a vaginal antiseptic solution.

Dental Applications: Povidone iodine is sometimes used in dentistry for disinfection of the oral cavity, including as a mouthwash or as part of the preoperative preparation for oral surgery.

It's essential to use povidone iodine solution according to the instructions provided by healthcare professionals or as indicated on the product label. While it is generally well-tolerated, some individuals may be sensitive or allergic to iodine. In such cases, alternative antiseptic solutions should be considered.

As with any medical product, it's important to consult with a healthcare professional for guidance on the appropriate use of povidone iodine, especially if you have specific health conditions or concerns.

The combination of Betadine wound irrigation and intrawound vancomycin powder application led to both a clinically and statistically significant decrease in SSI rates by 50%. Bacteriology analysis and risk factor assessment proved to be valuable tools in assessing the efficacy of a new prophylactic measure and in the planning of future protocols [1].

0.1 % povidone iodine solution cannot be recommended for wound dressing for neural structures such as myelomeningocele cases because of possible damage to underlying neural tissues [2].

Betadine decreased postoperative infection rates compared with antibiotic prophylaxis alone at 90 days but not 30 days. This was not statistically significant, but a larger sample size would lower the beta error and decrease confounding bias associated with group heterogeneity. The potential for betadine, a cheap, low toxicity antimicrobial, to decrease infection rates and reoperations for infection warrants a larger multi center trial [3].

In a large series of new DBS hardware implantations, the incidence of postoperative wound dehiscence and/or infections requiring further surgery was 1.24%. Standard practice for all implantations was a short procedural duration, copious povidone-iodine irrigation, and postoperative antibiotic administration. Partial hardware removal should be initially attempted for infection [4].

The efficacy and safety of povidone-iodine in wound dressing and irrigation of some operative cavities were established by many in vitro and in vivo experimental reports and clinical series.

Ulivieri et al. consider the solution of povidone-iodine plus hydrogen peroxide effective to further reduce the rate of post-operative infection in spine surgery [5] [6].

Based on a study, 0.1 % povidone-iodine solution cannot be recommended for wound dressing for neural structures such as myelomeningocele cases because of possible damage to underlying neural tissues [7].

Many have compared chlorhexidine (CHG) with povidone iodine solution (PVI), but there is emerging evidence for combination usage. Objective To conduct a systematic review and meta-analysis to evaluate if combination skin preparation (1) reduces colonization at the operative site and (2) prevents SSI compared with single-agent use. Data Sources A literature search of MEDLINE, Embase, and Cochrane Database of Clinical Trials was performed. Study Selection Comparative, human trials considering the combination use of CHG and PVI, as preoperative antisepsis, to single-agent CHG or PVI use were included. Studies were excluded from meta-analysis if the use or absence of alcohol was inconsistent between study arms. Data Extraction and Synthesis The study was performed using PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Main Outcomes and Measures The primary outcome for meta-analysis was surgical site infection. The secondary outcome was colonization at the operative site. Results Eighteen publications with a combination of CHG and PVI use were identified. Of these, 12/14 inferred promise for combination usage, including four trials eligible for meta-analysis. Only one trial reported SSI as its outcome. The remaining three considered bacterial colonization. Combination preparation had a pooled odds ratio for complete decolonization of 5.62 (95% confidence interval 3.2 to 9.7, $p < 0.00001$). There was no evidence of heterogeneity (Cochran's Q 2.1, 2 df , $p = 0.35$). Conclusions

and Relevance There is emerging, albeit low-quality, evidence in favor of combination CHG and PVI preoperative antisepsis. Further rigorous investigation is indicated [8].

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