**Forschungsprojekte an der Wiederkäuerklinik der Vetsuisse-Fakultät Bern**

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| Forschungsschwerpunkt | Infektionskrankheiten |
| Projekttitel | **Prospective randomized clinical trial: Octenidine dihydrochloride for preoperative surgical site skin preparation in clean surgeries in cattle** |
| Inhalt | Surgical site infections (SSI) represent a major economic and welfare burden. The impact of SSI implies increased veterinary costs because of delayed wound healing, prolonged hospitalization, increased use of antibiotics, possible enhanced resistance of microorganisms to antimicrobials, increased morbidity, and may result in a fatal outcome. SSI have been reported in up to 10.5% of clean standing flank laparotomies in cattle.<br>The recommendations for control of SSI state that preoperative surgical site skin preparation using appropriate products is one of the important interventions to prevent SSI. Povidone-iodine (PVI) and chlorhexidine digluconate (CHX), in combination with alcohol or sterile saline solution, are the most commonly used antiseptics for preoperative skin preparation in veterinary surgery. Despite similar initial reduction in bacterial count, PVI has a low residual effect compared to CHX, thus faster bacterial regrowth may appear. In addition, concerns have been expressed about the suitability of CHX because of acquired resistance of methicillin-resistant Staphylococcus aureus (MRSA) and enterococci to this compound. Low dermal tolerance is another disadvantage seen with the use of both these antiseptics.<br>Octenidine dihydrochloride (OCT) is a bactericidal and fungicidal antiseptic currently used in human hospitals in Europe. OCT use has not been established for skin antisepsis in veterinary surgery. The in-vitro antimicrobial efficacy of OCT is 3 to 10 times higher than that of CHX and its residual effect similar to that of CHX. Additionally, OCT shows low cytotoxicity, which can guarantee a better dermal tolerance. OCT is also effective against MRSA and multidrug-resistant Gram-negative pathogens.<br>The objective of the study is to compare and evaluate preoperative surgical site skin preparation with OCT, CHX or PVI in cattle surgery in regard to the occurrence of SSI. The study is designed to test the following hypothesis: OCT preoperative surgical site skin preparation will result in non-inferior immediate reduction in bacterial counts, residual effect, and prevention of occurrence of SSI when compared to CHX and PVI. |
| Hauptverantwortliche | Wiederkäuerklinik, Vetsuisse Fakultät, Universität Bern |
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