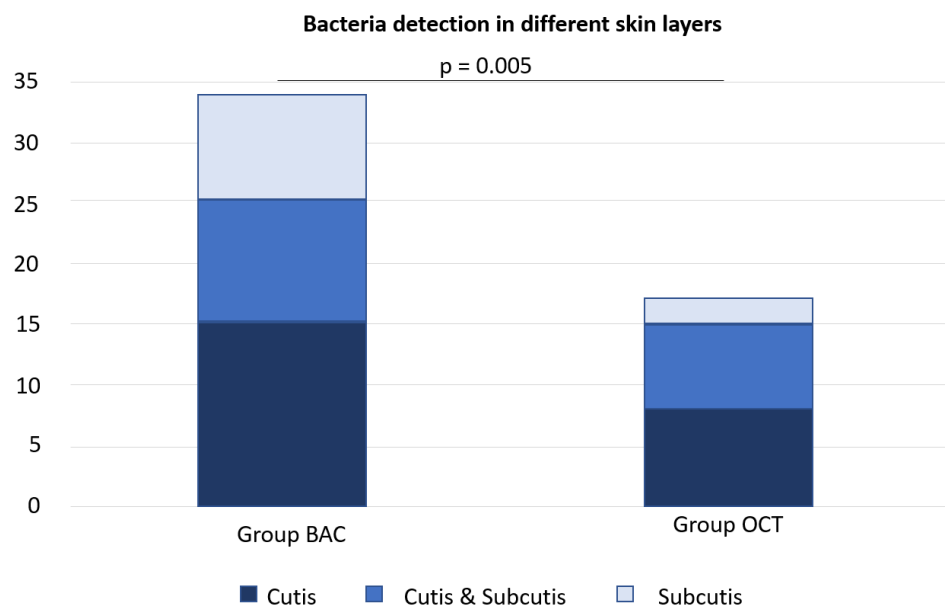


Research Compact

Tags	Preoperative skin disinfection, octenidine
Title	Comparison of two different antiseptics regarding intracutaneous microbial load after preoperative skin cleansing in total knee and hiparthroplasties
Authors	Böhle S., Vogel A., Matziolis G., Strube P., Rohe S., Brodt S., Mastrocola M., Eijer H., Rödel J., Lindemann C.
Source	2022, Scientific Reports, https://doi.org/10.1038%2Fs41598-022-23070-7
Aim of the study	In connection with knee and hip prostheses, complication-causing periprosthetic infections (PPI) frequently occur. Preoperative skin disinfectants should be used to prevent infections. Therefore, the difference in residual germ load between an antiseptic of an alcohol-based solution with benzalkonium chloride (BAC) and that of an alcohol-based solution with octenidine dihydrochloride (OCT) was investigated and compared in this study. Due to the known remanence effect and the proven efficacy of OCT even at only low concentrations, it was hypothesized that this agent is superior.
Methods	Here, a retrospective analysis of data from a prospective, monocentric cohort study was performed. In 200 patients with total knee or total hip arthroplasty, skin samples were collected from the surgical sites after skin disinfection with BAC or OCT. After separation of cutis and hypodermis and processing, cultivation on agar plates was performed. Microbial identification was performed using matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF MS). A comparison of the contaminated samples in both groups was subsequently performed.
Results	Among 200 participants, 100 each in the OCT and 100 in the BAC group, the microbiologically examined skin samples (cutis or hypodermis positive) revealed 34 positive findings in the BAC group and 17 in the OCT group. This is a statistically significant difference ($p = 0.005$).



Conclusion

The results of the study show, that compared to BAC there is a statistically significant lower residual bacterial count when OCT is used for preoperative skin antiseptics. The study indicates that further randomized controlled trials should be conducted.