Application Note | Wounds & Biofilms labskin

Assessing different wound dressings on biofilm-infected wounded Labskin

Objective:

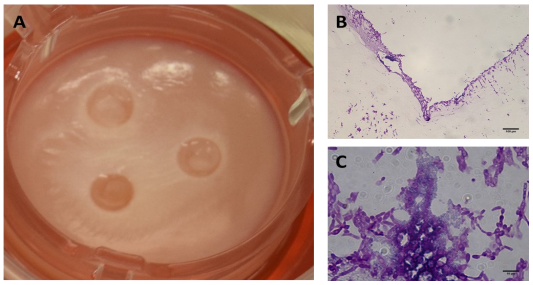
To determine whether a manuka honey, iodine or a silver impregnated wound dressing will decrease the growth of *S. aureus and C. albicans* when forming a polymicrobial biofilm on wounded Labskin.

Method:

- Each Labskin sample was wounded with a biopsy punch and immediately infected with *a mix of* S. aureus *and* C. albicans.
- All samples were incubated for 48h to allow biofilm formation
- After 48h, some samples had wound dressings applied directly on top of the wound site and then incubated for another 72 h.
- Samples were assessed by microbial viable counting

Results:

Figure 1 - Biofilm formation on wounded Labskin and PAS staining. (A) Polymicrobial biofilm growing in wounded Labskin[4,5] (B). PAS staining showing a biofilm infecting a wound (10x). (C) High magnification of biofilm showing yeast and bacteria growing together (100x)



Results continued:

Figure 2 - Application of wound dressing after 48 hours of biofilm formation

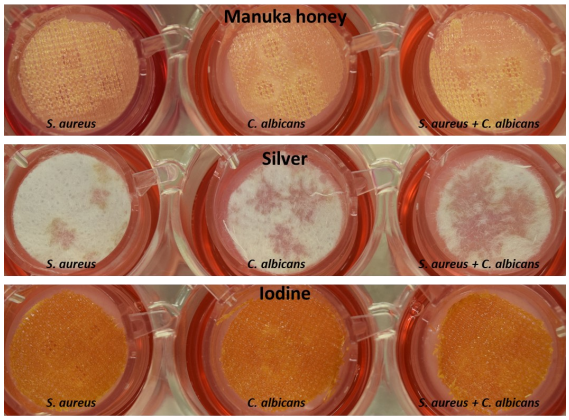
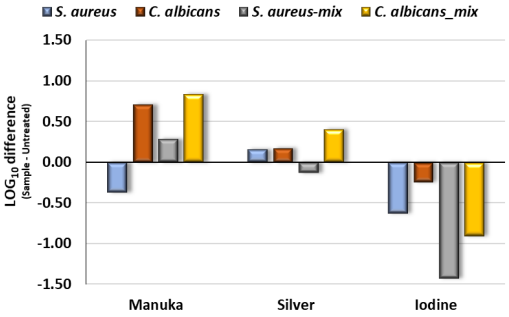


Figure 3 - Viable counts after 72 hours of treatment Log_{10} difference compared to Untreated control.



Summary:

Mono and polymicrobial biofilms were successfully developed in the Labskin wounded model. The wounds were infected with bacteria, fungi or a mix of both microbes.

Only the dressing containing iodine has a clear antimicrobial effect.

Contact us

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