

Antibacterial Activity of Three Essential Oils Against MRSA in vitro

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Study Purpose

The aim of this poster is to explore the antibacterial efficacy of Lavender, Clove, and Cinnamon essential oils against MRSA compared to 10% Povidine-iodine solution* in vitro

Background

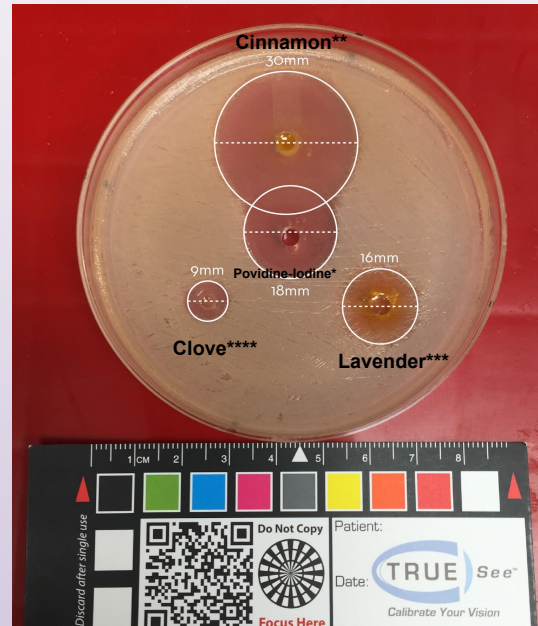
Essential oils have been used as topical antibacterial agents for centuries. Several studies show potent in vitro antibacterial activity associated with various essential oils. However there has been little research comparing antibacterial potency of Cinnamon, Clove, and Lavender against an established topical antibacterial agent such as 10% Povidine-iodine solution.

Methods

70 microliters of each of the three different essential oils was plated on Mueller-Hinton agar dishes using a well-diffusion testing method. The essential oils were tested against MRSA, with a control of 10% Povidine-iodine solution. Zones of inhibition (ZOI) were measured by hand and also verified using the TRUE-SEE digital image calibration system.



Methicillin Resistant Staph Aureus



*Betadine **Cinnamomum cassia ***Lavundula angustifolia ****Syzgium aromaticum

Results

The zone of MRSA growth inhibition of the three different essential oils measured as follows: Cinnamon=30 mm, Clove=9 mm, Lavender= 16 mm, on average. The control of 10% Povidine-iodine* solution showed a 18 mm zone of inhibition against MRSA.

Conclusion

While 10% Povidine-iodine solution has been widely studied as a topical antibacterial agent, it appears that Cinnamon, Lavender, and Clove oils have significant action against MRSA as well. More research and cytotoxicity testing is necessary to determine if topical essential oils such as Cinnamon, Clove, and Lavender might be viable topical antibacterial agents for the treatment of infected skin and wounds in vivo.

References

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