ABSTRACT BOOK LATE-BREAKING ABSTRACTS



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INFECTIOUS DISEASES (BACTERIAL, FUNGAL, VIRAL, PARASITIC, INFESTATIONS)

## ENHANCING THE EFFECT OF HYDROGEN PEROXIDE ON SKIN BIOFILM FORMATION BY A MONOGLYCERIDES STABILISED CREAM

Daniela Pinto<sup>(1)</sup> - Fausto Cadei<sup>(1)</sup> - Barbara Marzani<sup>(1)</sup> - Elisabetta Sorbellini<sup>(1)</sup> - Giammaria Giuliani<sup>(1)</sup> - Fabio Rinaldi<sup>(1)</sup>

Hmap, Hmap, Milan, Italy<sup>(1)</sup>

Background: Hydrogen peroxide is widely used for the treatment of many skin conditions included skin ulcers, acne vulgaris and that related to skin infections.

As an oxidizing agent, it exerts its activity against a wide variety of microorganisms by realizing oxygen once applied to tissues. 1% aqueous solution effect is exhausted as oxygen is being released. Stabilization of hydrogen peroxide in monoglycerides cream allows overcoming above limitations by a controlled release of hydrogen peroxide.

Objective: In the present work, we evaluated hydrogen peroxide anti-biofilm activity and how different formulative choices can have an impact on this.

Materials & Methods: We analyzed differences between 1% hydrogen peroxide stabilized cream and a class II hydrogen peroxide (1.8%) gel medical device as regards anti-biofilm activity against Staphylococcus aureus.

Both formulations have also been compared as regards their formulative potential, stability, and differences as regard hydrogen peroxide release.

Results: The in vitro analysis of anti-biofilm activity against S. aureus highlighted 1% hydrogen peroxide stabilized cream performing potential compared to class II hydrogen peroxide (1.8%) gel medical device.

Therefore 1% hydrogen peroxide stabilized cream revealed as more performing than class II hydrogen peroxide (1.8%) gel medical due to the innovative stabilized system used and also to the additive antimicrobial activity of monoglycerides included in the lipidic phase of the formulation.

Therefore the presence of chelating agents and buffer system enhance the stability of 1% hydrogen peroxide stabilized cream. Above all the presence of crystalline lipid phase ensures a controlled release of hydrogen peroxide with benefits both for hydrogen peroxide concentration in tissues and bactericidal activity.

Conclusions: 1% hydrogen peroxide stabilized cream in monoglycerides cream (Crystacide 1%) represents an available alternative treatment for many skin conditions due to its











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enhanced stability, anti-microbial activity and hydrogen peroxide controlled release.



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