ABSTRACT BOOK ABSTRACTS



A new ERA for global Dermatology 10 - 15 JUNE 2019 MILAN, ITALY

ACNE, ROSACEA, AND RELATED DISORDERS (INCLUDING HIDRADENITIS SUPPURATIVA)

INTERLEUKIN 1-ALPHA AND VEGF SUPPORT THE GROWTH AND PERSISTENCE OF BIOFILM-PRODUCING PROPIONIBACTERIUM ACNES IN INDIVIDUALS WITH ACNE

Ilaria Cavallo⁽¹⁾ - Enea Gino Di Domenico⁽¹⁾ - Valentina Bordignon⁽¹⁾ - Grazia Prignano⁽¹⁾ - Maria Teresa Gallo⁽¹⁾ - Bruno Capitanio⁽²⁾ - Fabrizio Ensoli⁽¹⁾

San Gallicano Dermatological Institute Irccs, Clinical Pathology And Microbiology, Rome, Italy⁽¹⁾ - San Gallicano Dermatological Institute Irccs, Division Of Dermatology, Rome, Italy⁽²⁾

Introduction: Acne vulgaris is a common inflammatory disorder of the sebaceous follicles, affecting more than 80% of young adolescents. Propionibacterium acnes play a role in the pathogenesis of acne lesions, although the mechanism(s) are, as yet, poorly understood.

Objective: The role of P. acnes, as well as the impact of biofilm production in comedogenesis and in the progression towards inflamed acne lesions were investigated. Besides, this study assessed the effect of skin inflammatory molecules such as interleukin (IL)- α , and vascular endothelial growth factor (VEGF), in bacterial growth and persistence.

Materials/methods: Samples were collected from 30 acne patients, in order to assess the presence of P. acnes. Biofilm production was measured by the clinical BioFilm Ring Test in all P. acnes isolates. Tape adsorption tests, were used to measure the levels of IL-1 α , and VEGF. In vitro studies were performed to evaluate the response of P. acnes isolates to different concentrations of IL- α and VEGF.

Results: P. acnes strains were found in all acne patients. Nevertheless, a significantly higher prevalence of P. acnes was found with both inflamed (papule and pustule) and noninflamed (comedon) acne lesions, as compared with microcomedon and healthy skin. Notably, all the strains analyzed were found to be biofilm producers. The level of IL-1 α and VEGF were higher in both lesional and non-lesional skin of acne patients as compared to control subjects. Additionally, both IL-1 α and VEGF selectively promoted a concentration-dependent increase of P. acnes growth.

Conclusions: This study indicates that: 1) the presence of P. acnes increases according to the progression of acne lesions; 2) the increased level of IL-1a and VEGF may play a key role at promoting the growth of P. acnes; 3) biofilm production by P. acnes may contribute at sustaining bacterial adhesion and chronic persistence in the skin.





International League of Dermatological Societies *Skin Health for the World*

