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ORANGE COUNTY CONVENTION CENTER

Presented at the Late-breaking Forums during the 2017 Annual Meeting in Orlando, FL, March 3-7, 2017 by:

Dr. Nicole Lee, MD, MPH

“Improving the Appearance of Keratosis Pilaris with Ammonia Oxidizing Bacteria”

Saturday, March 4 from 10:50 AM - 11:00 AM

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ABSTRACT

Keratosis pilaris is a common skin condition presenting as follicular hyperkeratotic papules on proximal extremities. The appearance is disturbing to patients and current therapies are limited. Nitric oxide (NO) is essential in systemic and cutaneous physiologic function, specifically its anti-microbial and anti-inflammatory properties, which evolutionarily may have been maintained by ammonia-oxidizing bacteria (AOB). We hypothesized that topical skin application of AOB (*Nitrosomonas eutropha*), a biological delivery system of nitrite and NO, could benefit KP patients. We evaluated tolerability and efficacy in a double-blind, placebo-controlled, bilateral study in subjects with KP on both arms and legs. Investigator Global Assessment (IGA) success occurred in 29% (7/24; p=0.01) of the active group versus 4% of placebo group (1/24). Skindex16 progressively improved from baseline to week 4 (35%; p<0.0003). Skin smoothness evaluated with 3D imaging showed impressive improvement (>45% reduction versus placebo in Knots Total Count and Knots Total Area). PCR analysis of skin swabs was used to detect presence of AOB and to follow compliance. In summary, topical *Nitrosomonas eutropha* offers a safe and effective treatment for improving the appearance of skin afflicted with keratosis pilaris.