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## 1. Photodynamic Therapy: an alternative treatment for acne vulgaris

Acne is both prevalent and treatable. But, conventional treatments are not without their faults. Topical creams tend to help, and they provide a solution for many patients. Oral antibiotics help, but these medications run the risk of creating drug-resistant bacteria. Oral isotretinoin or Accutane is effective but poses the risk of birth defects and liver damage. Because many of the traditional therapies for acne carry with them unfortunate outcomes, alternatives to mainstream prescriptions ought to be investigated. An emerging potential treatment is narrow band blue light (NBBL at 405-420 nm).

NBBL has been shown to effectively kill *Propionibacterium acnes (P. Acnes)*, the bacteria that causes acne vulgaris. Photodynamic therapy (PDT) utilizing NBBL has demonstrated safety and efficacy in the treatment of acne vulgaris. It works by exhibiting a phototoxic effect on the heme metabolism of *P. acnes*. ALA-PDT also causes phototoxic involution of sebaceous glands. Previous *in vitro* study has shown that NBBL has anti-inflammatory effects on keratinocytes by decreasing cytokine-induced production of IL-1α and ICAM-1 {Shnitkind et al. J Drugs Dermatol. 5(7):605, 2006}. The presentation will be focused on the *in vivo* and *in vitro* effects of blue light and PDT on skin and on acne.

**2. An Update: Combination Regimen for the Treatment of Acne and Postinflammatory Hyperpigmentation.**

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Abstract

Acne vulgaris is a common skin condition in the United States that affects virtually all individuals sometimes during their life. Four factors contribute to acne formation: abnormal follicular hyperkeratosis, increased sebum production, bacterial colonization and inflammation. Postinflammatory hyperpigmentation (PIH) can be observed secondary to various inflammatory processes in the skin. The condition is usually more apparent, intense and persistent in subjects of genetically determined darker skin. It is commonly observed as a sequela of acne.

Topical and systemic retinoids and antibiotics have proven efficacious in the treatment of subjects with acne vulgaris. Sebum reduction is also associated with considerable clinical benefit as seen with antiandrogen-estrogen combination drugs. The most effective regimens combine multiple modalities each aimed at targeting a different step in acne pathogenesis. Various modalities will be discussed including Duac Topical Gel used in a combination regimen with Tazorac 0.1% Cream, Tazarotene used in combination regimen with oral Minocycline or Doxycycline, Clindaben (1/2.5) and Dapsone Gel (5%) used in combination with adapalene, benzoyl peroxide. PIH is frequently resistant to single modality treatments. Hyperpigmentation in melasma, a seemingly related condition, has been shown to improve significantly with Triluma, a combination regimen of fluocinolone acetonide, hydroquinone and tretinoin. The effectiveness of Triluma cream in facial melasma suggests that it may be effective in the treatment of other disorders of cutaneous hyperpigmentation.

The objective of this lecture is to provide an update for several well-controlled multicenter studies designed to evaluate the safety, tolerability, and efficacy of combination regimen for acne and skin hyperpigmentation. This review will discuss the options available to treat these skin problems today, including promising new treatments in the investigational stage.