Photodynamic therapy of acne vulgaris.

NASA Astrophysics Data System (ADS)

Ershova, Ekaterina Y.; Karimova, Lubov N.; Kharnas, Sergey S.; Kuzmin, Sergey G.; Loschenov, Victor B.

2003-06-01

Photodynamic therapy (PDT) with topical 5-aminolevulinic acid (ALA) was tested for the treatment of acne vulgaris. Patients with acne were treated with ALA plus red light. Ten percent water solution of ALA was applied with 1,5-2 h occlusion and then 18-45 J/cm2 630 nm light was given. Bacterial endogenous porphyrins fluorescence also was used foracne therapy. Treatment control and diagnostics was realized by fluorescence spectra and fluorescence image. Light sources and diagnostic systems were used: semiconductor laser (?=630 nm, Pmax=1W), (LPhT-630-01-BIOSPEC); LED system for PDT and diagnostics with fluorescent imager (?=635 nm, P=2W, p=50 mW/cm2), (UFPh-630-01-BIOSPEC); high sensitivity CCD video camera with narrow-band wavelength filter (central wavelength 630 nm); laser electronic spectrum analyzer for fluorescent diagnostics and photodynamic therapy monitoring (LESA-01-BIOSPEC). Protoporphyrin IX (PP IX) and endogenous porphyrins concentrations were measured by fluorescence at wavelength, correspondingly, 700 nm and 650 nm. It was shown that topical ALA is converted into PP IX in hair follicles, sebaceous glands and acne scars. The amount of resulting PP IX is sufficient for effective PDT. There was good clinical response and considerable clearance of acne lesion. ALA-PDT also had good cosmetic effect in treatment acne scars. PDT with ALA and red light assist in opening corked pores, destroying Propionibacterium acnes and decreasing sebum secretion. PDT treatment associated with several adverse effects: oedema and/or erytema for 3-5 days after PDT, epidermal exfoliation from 5th to 10th day and slight pigmentation during 1 month after PDT. ALA-PDT is effective foracne and can be used despite several side effects.

Tretinoin microsphere gel pump 0.04% versus tazarotene cream 0.05% in the treatment of mild-to-moderate facial acne vulgaris.

PubMed

Kircik, Leon H

2009-07-01

This 12-week, single-center, investigator-blinded, randomized, parallel-design study assessed the safety and efficacy of tretinoin microsphere gel 0.04% delivered by pump (TMG PUMP) to tazarotene cream 0.05% (TAZ) in mild-to-moderate facial acne vulgaris. Efficacy measurements

included investigator global assessment (IGA), lesion counts, and subject self-assessment of acne signs and symptoms. Efficacy was generally comparable between treatment groups, although TMG PUMP provided more rapid results in several parameters. IGA showed a more rapid mean change from baseline at week 4 in the TMG PUMP group (-0.18 versus -0.05 in the TAZ subjects). TMG PUMP yielded more rapid improvement in papules. At week 4, the mean percentage change from baseline in open comedones was statistically significant at -64% in the TMG PUMP group (P=0.0039, within group) versus -19% in the TAZ group (not statistically significant within the group; P=0.1875). Skin dryness, peeling and pruritus were significantly less in the TMG PUMP group as early as week 4. Adverse events related to study treatment were rare in both groups and all resolved upon discontinuation of study medication. PMID:19588641

Tazarotene 0.1 percent cream plus clindamycin 1 percent gel versus tretinoin 0.025 percent gel plus clindamycin 1 percent gel in the treatment of facial acne vulgaris.

PubMed

Tanghetti, Emil; Dhawan, Sunil; Torok, Helen; Kircik, Leon

2007-01-01

Topical retinoids are the cornerstone of therapy for acne vulgaris. Nevertheless, the adjunctive use of other anti-acne agents can help enhance the efficacy of topical retinoids still further. Given that tazarotene 0.1 percent gel has previously shown significantly greater efficacy than tretinoin 0.025 percent gel, it is likely that tazarotene plus clindamycin offers superior efficacy to tretinoin plus clindamycin, which has recently become available as a combination product. A total of 150 patients with facial acne vulgaris were randomly assigned to receive either tazarotene 0.1 percent cream plus clindamycin 1 percent gel, or tretinoin 0.025 percent gel plus clindamycin 1 percent gel. Each medication was applied once daily in the evening (clindamycin followed by the retinoid 5-10 minutes later) for up to 12 weeks. At week 12, the reduction from baseline in lesion counts was greater with tazarotene/clindamycin than tretinoin/clindamycin for both the non-inflammatory lesion count (71% vs. 52%, p< or =.01) and the inflammatory lesion count (77% vs. 67%, P=.053). Tazarotene/clindamycin also resulted in a significantly higher incidence of patients achieving > or = 50 percent global improvement (incidence of 88% vs. 75% at week 12; p< or =.05). Both regimens were similarly well tolerated. In the treatment of facial acne vulgaris, tazarotene plus clindamycin offers significantly greater efficacy than tretinoin plus clindamycin and has comparable tolerability. PMID:18328195

1. Impaired water barrier function in acne vulgaris

Microsoft Academic Search

Ayako Yamamoto; Kaoruko Takenouchi; Masaaki Ito

1995-01-01

In acne vulgaris, abnormal follicular keratinization is important for comedo formation, yet the precise mechanisms of comedogenesis are not known. The present study examined the interrelationship between sebum secretion rate (SSR), lipid content and water barrier function (WBF) of the stratum corneum (SC) in 36 acne patients and 29 control subjects. All major SC lipid classes were separated and quantified

Acne vulgaris and light-based therapies.

PubMed

Momen, Sophie; Al-Niaimi, Firas

2015-06-01

Acne vulgaris is a common condition which remains challenging to treat in some cases. Laser and light-based therapies offer an alternative to medical therapies with the advantage of high compliance and relatively low side-effect profile. Light-based therapies in acne exert their effects through photochemical, photothermal, or a combination of both mechanisms. This article explains the mode of action for each light-based modality and examines the current evidence in this field. PMID:25415371

2. Nahrungsmittel-Allergen-Testung bei Acne vulgaris

Microsoft Academic Search

B. Wüthrich; Th. Much

1978-01-01

120 patients with acne vulgaris had to undergo an intracutaneous allergen test with 23 of the most important food allergens. The skin test results of 83 patients (69.2%) were negative, only 9 (7.4%) showed a distinct immediate reaction on four or more food extracts. Almonds showed the most positive reactions (11.6%), then malt (10%), cheese, mustard, red pepper (8.3% each),

3. Comparative Efficacy and Tolerability of Dapsone 5% Gel in Adult Versus Adolescent Females with Acne Vulgaris

PubMed Central

Kircik, Leon; Gallagher, Conor J.

2015-01-01

Objective: To determine whether the response to dapsone 5% gel was similar in adolescent girls and adult women with facial acne vulgaris. Design and setting: Subgroup analysis of female subjects with acne vulgaris receiving active treatment enrolled in two randomized, double-blind Phase 3 clinical trials. Treatment: Twice-daily applications of dapsone 5% gel over 12 weeks. Participants: Adolescent (12-17 years of age) and adult (?18 years of age) females. Measurements: At baseline and at Weeks 2,4,6,8, and 12, subjects were evaluated using the global acne assessment score and by counts of inflammatory, noninflammatory, and total acne vulgaris lesions. Adverse events were monitored. Results: A total of 347 adolescent and 434 adult women were included in the subgroup analysis. At Week 12, dapsone 5% gel significantly reduced mean global acneassessment score in both subgroups ($p<0.001$); however, the proportion of subjects with clinical success (no or minimal acne based on global acne assessment score) at Week 12 was greater in adult women (53.5%) versus adolescent females (45.3%, $p=0.022$). Significantly greater percentage reductions in both noninflammatory ($p<0.0001$) and total lesion counts ($p=0.0008$) were observed in the adult group as compared to the adolescent group. Percentage reductions from baseline in inflammatory lesions were similar in both groups. No major safety issues and no previously unrecognized safety signals were noted. Conclusion: This subgroup analysis of female patients indicates that dapsone 5% gel twice daily is effective in reducing inflammatory and noninflammatory acne vulgaris lesions in both adolescent and adult women, and is safe in these subgroups. Overall, these data suggest that efficacy of dapsone 5% gel twice daily for facial acne vulgaris may be greater in the adult female population. PMID:25610522

Effect of the Glycemic Index of Carbohydrates on Acne vulgaris

PubMed Central

Reynolds, Rebecca C.; Lee, Stephen; Choi, James Y. J.; Atkinson, Fiona S.; Stockmann, Karola S.; Petocz, Peter; Brand-Miller, Jennie C.

2010-01-01

Acne vulgaris may be improved by dietary factors that increase insulin sensitivity. We hypothesized that a low-glycemic index diet would improve facial acne severity and insulin sensitivity. Fifty-eight adolescent males (mean age ± standard deviation 16.5 ± 1.0 y and body mass index 23.1 ± 3.5 kg/m2) were alternately allocated to high or low glycemic index diets. Severity of inflammatory lesions on the face, insulin sensitivity (homeostasis modeling assessment of insulin resistance), androgens and insulin-like growth factor-1 and its binding proteins were assessed at baseline and at eight weeks, a period corresponding to the school term. Forty-three subjects (n = 23 low glycemic index and n = 20 high glycemic index) completed the study. Diets differed significantly in glycemic index (mean ± standard error of the mean, low glycemic index 51 ± 1 vs. high glycemic index 61 ± 2, p = 0.0002), but not in macronutrient distribution or fiber content. Facial acne improved on both diets (low glycemic index ?26 ± 6%, p = 0.0004 and high

glycemic index ?16 ± 7%, p = 0.01), but differences between diets did not reach significance. Change in insulin sensitivity was not different between diets (low glycemic index 0.2 ± 0.1 and high glycemic index 0.1 ± 0.1, p = 0.60) and did not correlate with change in acne severity (Pearson correlation r = ?0.196, p = 0.244). Longer time frames, greater reductions in glycemic load or/and weight loss may be necessary to detect improvements in acne among adolescent boys.
PMID:22253996

Effect of the glycemic index of carbohydrates on Acne vulgaris.

PubMed

Reynolds, Rebecca C; Lee, Stephen; Choi, James Y J; Atkinson, Fiona S; Stockmann, Karola S; Petocz, Peter; Brand-Miller, Jennie C

2010-10-01

Acne vulgaris may be improved by dietary factors that increase insulin sensitivity. We hypothesized that a low-glycemic index diet would improve facial acne severity and insulin sensitivity. Fifty-eight adolescent males (mean age ± standard deviation 16.5 ± 1.0 y and body mass index 23.1 ± 3.5 kg/m(2)) were alternately allocated to high or low glycemic index diets. Severity of inflammatory lesions on the face, insulin sensitivity (homeostasis modeling assessment of insulin resistance), androgens and insulin-like growth factor-1 and its binding proteins were assessed at baseline and at eight weeks, a period corresponding to the school term. Forty-three subjects (n = 23 low glycemic index and n = 20 high glycemic index) completed the study. Diets differed significantly in glycemic index (mean ± standard error of the mean, low glycemic index 51 ± 1 vs. high glycemic index 61 ± 2, p = 0.0002), but not in macronutrient distribution or fiber content. Facial acne improved on both diets (low glycemic index -26 ± 6%, p = 0.0004 and high glycemic index -16 ± 7%, p = 0.01), but differences between diets did not reach significance. Change in insulin sensitivity was not different between diets (low glycemic index 0.2 ± 0.1 and high glycemic index 0.1 ± 0.1, p = 0.60) and did not correlate with change in acne severity (Pearson correlation r = -0.196, p = 0.244). Longer time frames, greater reductions in glycemic load or/and weight loss may be necessary to detect improvements in acne among adolescent boys.
PMID:22253996

4. Beneficial effect of 15% azelaic acid cream on acne vulgaris.

PubMed

Nazzaro-Porro, M; Passi, S; Picardo, M; Breathnach, A; Clayton, R; Zina, G

1983-07-01

Patients treated with azelaic acid (15%) cream for chloasma reported simultaneous improvement of acne lesions within the treated areas. This prompted an open study of its effect in cases of acne without chloasma. One hundred patients with acne vulgaris were treated for 3-9 months by twice-daily application of the cream with significant improvement in every case. PMID:6222755

5. In vitro activities of azole antifungal agents against Propionibacterium acnes isolated from patients with acne vulgaris.

   PubMed

   Sugita, Takashi; Miyamoto, Mayumi; Tsuboi, Ryoji; Takatori, Kazuhiko; Ikeda, Reiko; Nishikawa, Akemi

   2010-01-01

   The Gram-positive bacterium Propionibacterium acnes is the causative agent of acne vulgaris. Antibiotics such as tetracycline and macrolide derivatives are used to treat this skin disease; however, the isolation frequency of antibiotic-resistant P. acnes has been increasing. The anti-P. acnes activity of imidazole antifungal agents was reported more than 20 years ago, and since then, new azole antifungal agents have been marketed. Thus, this study determined the in vitro activities of azole antifungal agents against P.acnes isolated from patients with acne vulgaris. Of the five agents tested, miconazole, ketoconazole, and itraconazole showed concentration-dependent anti-P. acnes activity, including against antibiotic-resistant isolates. Time-kill assay also showed the time-dependent activity of the drugs. Fluconazole and voriconazole showed no anti-P. acnesactivity. PMID:20045949

6. ICG laser therapy of acne vulgaris

   NASA Astrophysics Data System (ADS)

   Tuchin, Valery V.; Altshuler, Gregory B.; Genina, Elina A.; Bashkatov, Alexey N.; Simonenko, Georgy V.; Odoevskaya, Olga D.; Yaroslavsky, Ilya V.

   2004-07-01

   The near-infrared (NIR) laser radiation due to its high penetration depth is widely used in phototherapy. In application to skin appendages a high selectivity of laser treatment is needed to prevent light action on surrounding tissues. Indocyanine Green (ICG) dye may provide a high selectivity of treatment due to effective ICG uploading by a target and its narrow band of considerable absorption just at the wavelength of the NIR diode laser. The goal of this study is to demonstrate the efficacy of the NIR diode laser phototherapy in combination with topical application of ICG suggested for soft and thermal treatment of acne vulgaris. 28 volunteers with facile or back-located acne were enrolled. Skin sites of subjects were stained by ICG and irradiated by NIR laser-diode light (803 or 809 nm). Untreated, only stained and only light irradiated skin areas served as controls. For softacne treatment, the low-intensity (803 nm, 10 - 50 mW/cm2, 5-10 min) or the medium-intensity (809 nm, 150 - 190 mW/cm2, 15 min) protocols were used. The single and multiple (up to 8-9) treatments were provided. The individual acne lesions were photothermally treated at 18 W/cm2 (803 nm, 0.5 sec) without skin surface cooling or at 200

W/cm2 (809 nm, 0.5 sec) with cooling. The results of the observations during 1-2 months after the completion of the treatment have shown that only in the case of the multiple-wise treatment a combined action of ICG and NIR irradiation reduces inflammation and improves skin state during a month without any side effects. At high power densities (up to 200 W/cm2) ICG stained acne inflammatory elements were destructed for light exposures of 0.5 sec. Based on the concept that hair follicle, especially sebaceous gland, can be intensively and selectively stained by ICG due to dye diffusion through pilosebaceous canal and its fast uptake by living microorganisms, by vital keratinocytes of epithelium of the canal and sebaceous duct, and by rapidly proliferating sebocytes, new technologies of soft and thermal acne lesions treatment that could be used in clinical treatment ofacne were proposed.

7. An update on the management of acne vulgaris

   PubMed Central

   Keri, Jonette; Shiman, Michael

   2009-01-01

   Acne vulgaris is a common skin disorder that can affect individuals from childhood to adulthood, most often occurring in the teenage years. Acne can have a significant physical, emotional, and social impact on an individual. Many different treatment options are available for the treatment of acne vulgaris. Commonly used topical treatments include benzoyl peroxide, antibiotics, sulfur and sodium sulfacetamide, azelaic acid, and retinoids. Systemic treatment is frequently used and includes the use of systemic antibiotics, oral contraceptives, antiandrogens, and retinoids. Other treatment modalities exist such as the use of superficial chemical peels as well as using laser and light devices for the treatment of acne. With the multitude of treatment options and the rapidly expanding newer technologies available to clinicians, it is important to review and be aware of the current literature and studies regarding the treatment of acne vulgaris. PMID:21436973

8. Adjuvant Narrow Band UVB Improves the Efficacy of Oral Azithromycin for the Treatment of Moderate to Severe Inflammatory Facial Acne Vulgaris

   PubMed Central

   Rassai, Sima; Rafeie, Esmaeil; Ramirez-Fort, Marigdalia K; Feily, Amir

   2014-01-01

   Background: Acne vulgaris (AV) is a common inflammatory disease of the pilosebaceous unit. A variety of treatment modalities are available for the treatment of AV. Among the available options, oral azithromycin is popularly prescribed for its proven anti-inflammatory effects. Narrow band UVB (NBUVB) also has a potent anti-inflammatory action. Concomitant use of both modalities may result in a synergistic therapeutic response; however, the combined efficacy has not yet been evaluated for the treatment of inflammatory AV. Objective: The aim of this study was to compare the efficacy of oral azithromycin plus NBUVB (peak 311 nm) to oral azithromycin alone for the treatment of moderate to severe inflammatory AV. Materials and Methods: A randomized, open-label, clinical trial was conducted over 4 weeks. Subjects were randomized into two groups. Group

1 received 500 mg of oral azithromycin three times per week. Group 2 received 500 mg of oral azithromycin plus NBUVB three and two times per week, respectively. Concomitant topical or oral AV treatments were not permitted during the treatment period. Response to treatment was measured by photographic records at the primary endpoint (2 weeks) and at the end of treatment. Results: One hundred and four subjects were enrolled in the trial; 94 subjects completed the treatment period of the study. Group 2 demonstrated significant clinical improvement of the inflammatory papular lesions (88.55%) compared with group 1 (70.34%) at the end of treatment (P = 0.002). The clinical response of pustular (P = 0.562), nodular (P = 0.711) and cystic (P = 0.682) lesions did not significantly differ between the two treatment groups. Interestingly, response to treatment in group 2 had a significant anatomical predilection for the forehead (P = 0.023). There was no side-effect except erythema, which subsided within 1-2 days. Conclusion: NBUVB plus oral azithromycin is more effective than oral azithromycin alone for treating papular lesions of inflammatory AV. NBUVB is certainly a viable adjunct inacne therapy. PMID:25538435

Topical application of ALA PDT for the treatment of moderate to severe acne vulgaris

NASA Astrophysics Data System (ADS)

Wang, Xiu-Li; Wang, Hong-Wei; Zhang, Ling-Lin; Su, Lina; Guo, Ming-Xia; Huang, Zheng

2009-06-01

Objectives: To evaluate the effectiveness of topical 5-aminolevulinic acid (ALA)- medicated photodynamic therapy (ALA PDT) for the treatment of moderate to severe acnevulgaris. Methods: Sixteen Chinese patients with moderate to severe facial acne were treated with 1-3 courses of ALA PDT. ALA cream (3%) was freshly prepared and applied toacne lesions for 3-4 h. The lesions were irradiated by a 635 nm diode laser at dose levels of 60 - 80 J/cm2 at 100 mW/cm2. Clinical assessments were conducted before and after treatment up to 3 months. Results: All patents showed response to ALA PDT. Complete clearance was seen in 10 patients (62.5%) and partial clearance in 6 patients (37.5%). One case showed recurrence after complete clearance at 2 months and another two showed recurrence after complete clearance at 3 months. However, the number of new lesions were significantly reduced. Adverse effects were minimal. Conclusions: The results of this preliminary clinical study is encouraging. ALA PDT is a simple, safe and useful therapeutic option for the treatment of moderate to severe acne. Further studies to evaluate the treatment with a larger number of patients and for a longer period of follow-up are needed.