EIGHT PATIENTS WITH MILD-TO-MODERATE SEBORRHEIC DERMATITIS OF THE SCALP WERE ENROLLED AND TREATED WITH A HOME-USE LED DEVICE IRRADIATING 395-NM BLUE LIGHT AND 660-NM RED LIGHT FOR 15 MIN ONCE DAILY FOR 8 WEEKS. CLINICAL SYMPTOMS INCLUDING ERYTHEMA (0-15), SCALES (0-15), EXTENT (0-15) AND ITCHING (0-10) WERE RECORDED BY SCORES AT 0, 2, 4, 8 WEEKS RESPECTIVELY.

RESULTS: AT FINAL VISIT AT 8 WEEKS, THE SCORES OF ERYTHEMA, SCALES, EXTENT AND ITCHING WERE DECREASED SIGNIFICANTLY, BY 7.75 TO 5.13 (P=0.018), 7.38 TO 4.13 (P=0.017) 8.25 TO 5.25 (P=0.017) AND 6 TO 3 (P=0.011) RESPECTIVELY. ALSO, SATISFACTORY SCORE WAS 8.13 OF 10. NO SEVERE ADVERSE REACTION WAS REPORTED, EXCEPTING HAIR DRYNESS (N=1) AND BRIEF STINGING SENSE (N=1).

CONCLUSION: LED PHOTOTHERAPY WITH COMBINED 395-NM AND 660-NM LIGHTS WAS BOTH EFFECTIVE AND SAFE THERAPEUTIC MODALITY IN THE TREATMENT OF SEBORRHEIC DERMATITIS. THE FINDINGS SUGGEST THE LED PHOTOTHERAPY MIGHT BE AN ADJUVANT THERAPEUTIC TOOL AGAINST SEBORRHEIC DERMATITIS EVEN THOUGH FURTHER CLINICAL STUDIES ARE NEEDED.

Keyword: Seborrheic dermatitis, Light emitting diode (LED), Phototherapy

P125

Therapeutic effect of topical tacrolimus on nail disorders

Department of Dermatology, Gachon University Gil Medical Center

Ji Hoon Kim, Chul Hyun Yun, Joon Seok Choi, Jeong Hwan Yun, Jin Ok Baek, Joo Young Roh, Jong Rok Lee

BACKGROUND: Tacrolimus is a calcineurin inhibitor with immunomodulatory and anti-inflammatory activity. In the treatment of nail disorders, favorable outcomes of off-label use of topical tacrolimus as an alternative to painful intralesional triamcinolone injection have been reported.

OBJECTIVES: The aim of this study is to investigate the efficacy of topical tacrolimus on nail disorders.

METHODS: A total of 10 patients with dystrophic nails and no evidence of fungal nail involvement were enrolled. All patients were instructed to apply 0.1% topical tacrolimus on the proximal nail fold of affected nails once a day. The results were assessed at 3 months according to physician's observation and were graded on a 4-point scale.

RESULTS: The majority of patients were females (M:F ratio of 3:7) and the mean age was 33 years. The average duration of nail disorders was 21 months. Cutaneous features of atopic dermatitis, housewives' eczema, chronic paronychia were detected while only onychodystrophy were found in other cases including one case of twenty nail syndrome. All of the patient showed moderate to excellent response: Excellent response in 2 patients, good response in 4 patients, and moderate response in 4 patients. None of side effects during the course of treatment were reported.

Keyword: Ablative carbon dioxide fractional laser, Acne scar, Isotretinoin, Wound healing
Treatment were reported.

**Conclusion:** On the basis of this study, topical tacrolimus seems to be an effective and safe treatment modality of nail disorders. Further study with larger number of patients and long-term follow-up after treatment is needed.

Keyword: Topical tacrolimus, Nail disorder

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**P126**

Treatment of infraorbital dark circles in atopic dermatitis with a 2,790 nm erbium:yttrium scandium gallium garnet laser: a pilot study

Departments of Dermatology, Chung Ang University College of Medicine, Seoul, Korea

In Young Oh, In Su Kim, Kui Young Park, Seong Jun Seo

**Background:** Although many Asian atopic patients have orbital darkening symptom and the demand to treat this condition is increasing, little has been reported in the literature on the treatment of infraorbital dark circles in atopic dermatitis (AD).

**Objectives:** We evaluated the clinical efficacy and safety of 2,790 nm erbium:yttrium scandium gallium garnet (Er:YSGG) laser therapy for reducing infraorbital dark circles in AD patients.

**Methods:** Korean patients over 21 year olds with mild AD and infraorbital dark circles were enrolled in this study. They were treated dark circles using a 2,790 nm Er:YSGG laser. The treatment parameters were 1.8-2.2 J/cm² fluence, 6 mm spot size, and 0.3 ms pulse width with 10% overlap over the infraorbital areas once with a four-week interval between treatments. Efficacy was assessed with a quartile grading score ranging from 0 to 5 by a blinded investigator, and the patients also documented their degree of satisfaction with the same grading score.

**Results:** The clinical assessment showed 74.5%(2.7) and 72.5%(2.5) improvements, and the patient satisfaction scale scores improved an average of 74%(2.4) and 71.5%(2.3) at two months and four months after treatment, respectively. There were no severe side effects or aggravation of AD.

**Conclusion:** Our study suggests that 2,790 nm Er:YSGG laser therapy can be effectively and safely used in the treatment of infraorbital dark circles in AD patients.

Keyword: Atopic dermatitis, Infraorbital dark circle, 2,790 nm Er:YSGG laser

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**P127**

Treatment of Recalcitrant Wart with Bleomycin Microneedle

Department of Dermatology, Gachon University, Gil Medical Center, Incheon, Korea

Joon Seok Choi, Cheol Hyun Yun, Ji Hoon Kim, Jeong Hwan Yun, Jin Ok Baek, Jong Rok Lee, Joo Young Roh

**Background:** Wart is common skin disease caused by the human papilloma virus infection. Because there is no way to selectively remove the virus, most treatment involving physical destruction of the infected cells has been used, such as cryotherapy and topical salicylic acid. But intense pain and multiple treatments, failure or recurrences may be substantial problems. Intraleisional bleomycin has been used in the treatment of vascular and epidermal tumors, and it has been treated viral warts since 1970. The exact mechanism was unresolved but it has been suggested that bleomycin induces cytotoxic or virucidal actions, breakages in the DNA strand and produce superoxide free radicals.

**Objectives:** We performed pilot study to apply bleomycin coated microneedle into wart lesion using polymerized microneedle to evaluation the treatment efficacy of it.

**Methods:** Three bleomycin coated microneedle plates were applied to wart lesions at interval of 2 weeks for 20 minutes. The treated lesions were observed at 8 weeks.

**Results:** None of them showed appravated lesion in size and revealed apparently improved lesion more than 30% size reduction compared to the base. No adverse reaction or pain and discomforts were observed.

**Conclusion:** Bleomycin microneedle might be suggested as a new treatment modality for the patients who have failed respond to conventional therapies or unable to tolerate painful treatment. Further study with large number of patients and comparison with conventional treatment is mandatory.

Keyword: Wart, Bleomycin, Microneedle

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**P128**

Treatment of recalcitrant warts with quadrivalent HPV vaccine

Department of Dermatology, Maryknoll Medical Center

Taekgeun Lee, Hyun Hwangbo, Taegwang Kwon, Sewon Jung, Youngseok Lee, Sookkyung Lee

**Background:** Wart is common skin disease caused by the human papilloma virus infection. Because there is no way to selectively remove the virus, most treatment involving physical destruction of the infected cells has been used, such as cryotherapy and topical salicylic acid. But intense pain and multiple treatments, failure or recurrences may be substantial problems. Intraleisional bleomycin has been used in the treatment of vascular and epidermal tumors, and it has been treated viral warts since 1970. The exact mechanism was unresolved but it has been suggested that bleomycin induces cytotoxic or virucidal actions, breakages in the DNA strand and produce superoxide free radicals.

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