specimens from 15 patients with lupus erythematosus panniculitis.

**Result:** The most common clinical manifestation was a depressed patch on upper arm. There was 46% and 13% positivity in the ANA and anti-ds DNA test, respectively. Histopathologically, all specimens revealed lobular panniculitis and the majority of cases presented epidermal atrophy and dermal infiltration. Immunohistochemistry showed a predominance of T lymphocytes. Although the polymerase chain reaction analysis of the T-cell receptor gene showed a polyclonal smear in 89% of cases, a small portion of specimens demonstrated monoclonality.

**Conclusion:** Lupus erythematosus panniculitis is a spectrum of lymphocytic lobular panniculitis with one pole representing a subcuticular lymphoid dyscrasias and the opposite pole being a reactive one lacking clonality and phenotypic abnormalities.

**KEYWORDS:** Lupus erythematosus panniculitis, Lupus profundus

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**FC 5-7**

**A Case of Carcinoid Syndrome with Scleroderma - like Lesion**

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Carcinoid syndrome is the constellation of symptoms typically exhibited by patients with carcinoid tumor that produce neuroendocrine mediators including serotonin. Carcinoid syndrome is diagnosed by increasing urinary 5-hydroxyindoleacetic acid (5-HIAA) and manifestations of gastrointestinal tract, respiratory system, cardiovascular system and the skin lesions which occur less than 10%. Cutaneous manifestations are flushing, telangiectasia, pellagra dermatitis, scleroderma which is relatively rare, and development of scleroderma has been suggestive to be poor prognostic indicator. Because of almost patients of the reports died within 2 years of development of the scleroderma.

A 60-year-old woman presented with sclerotic skin lesion on both legs. On examination, 10 x 10 cm sized solid mass was palpable on right lower abdomen, she had facial flushing, but Raynaud’s phenomenon is absent. On laboratory finding, urinary 5-HIAA was elevated (ranging 68.2mg/day). CT detected right ovarian tumor which is diagnosed carcinoid tumor by CT-guided needle biopsy. So we diagnosed carcinoid syndrome with scleroderma like lesion finally. And then she has been treated by chemotherapy for carcinoid tumor and UVA phototherapy for scleroderma like lesion on both legs.

So we report rare a case of carcinoid syndrome with scleroderma like lesion. And we suggest that if facial flushing and sclerotic skin lesion are presented together, we should consider the possibility of carcinoid tumor and do proper examination.

**KEYWORDS:** Carcinoid syndrome, Carcinoid tumor, Scleroderma

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**FC 6. Psoriasis and Papulosquamous Disease**

**FC 6-1 A Novel Function of Heme Oxygenase-1 in Epidermal Differentiation**

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**Background:** Keratinocytes are programmed to commit differentiation from the suprabasal cell layers. The complicated process is tightly regulated to maintain a hierarchical structure of the epidermis. The active cellular metabolism produces high level of oxidative stress in the skin.

**Objectives:** The ceaseless turnover of epidermal components requires efficient antioxidant system in the epidermis. We evaluated the modulation of heme oxygenase-1 (HO-1) as one of phase II antioxidant.

**Methods:** Primary cultured human keratinocytes were obtained from the epidermal sheets of human foreskin. HO-1 expression was evaluated by RT-PCR and Western blot analysis. For immunohistochemical staining, formalin-fixed, paraffin-embedded samples from normal skin and squamous cell carcinoma (SCC) were used.

**Results:** In primary cultured human keratinocytes, HO-1 expression was up-regulated as cells were induced to be differentiated by high calcium (1.5 mM) treatment. The markers of terminal differentiation of epidermis including keratin and loricrin were also up-regulated at the time-points when HO-1 expression was up-regulated. The RT-PCR, HO-1 mRNA expression was up-regulated when cells were in differentiating state. HO-1 expression was closely related with Nrf-2 pathway. Immunohistochemical staining showed that HO-1 expression was strongly positive in the upper layers of normal epidermis and also in the keratinizing foci of SCC.

**Conclusion:** Our results suggest that HO-1 expression is closely implicated in the terminal differentiation of epidermis. ROS are a candidate molecule to control HO-1 expression in the differentiating epidermis. From our study, we propose a novel function of HO-1 expression in the skin.

**KEYWORDS:** Heme oxygenase-1, Epidermal differentiation

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**FC 6-2 A Randomized, Open Labeled, Observer Blind, Parallel Group, Active Controlled Prospective Study to Compare Efficacy and Safety of Topical 0.1% Tazarotene Cream with Topical 0.05% Clobetasol Propionate Cream in the Treatment of Palmoplantar Psoriasis in Adults**

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Aim: 1) To study the efficacy and tolerability of topical Tazarotene cream (0.1%) in palmoplantar psoriasis.
2) To compare the same with topical Clobetasol propionate cream (0.05%) in palmoplantar psoriasis.

Methods: Patient above 18 years of age diagnosed to have palmoplantar psoriasis on clinical features and skin biopsy were included in the study. Patient’s condition requiring systemic drug for the disease, with palmoplantar pustulosis, on topical psoriatic medication of any type for 4 weeks prior to screening visit and pregnant females and lactating women were excluded. 30 patients who consented for the study were enrolled in the study after detailed consent procedure and randomized to therapy with once daily topical Tazarotene cream (0.1%) or once daily Clobetasol propionate cream (0.05%). Study patients were instructed to apply a thin layer of cream once daily at night to the affected area and emollients in the morning daily for 12 weeks. Study medications were applied after the skin had dried if the patient bathed or showered in the evening. The patients were assessed every 2 weeks. Emollients were not to be used the evening before each study visit. The primary effect of the drug was evaluated by improvement in ESFI (Erythema, Scaling, Fissures, and Induration) score at every 2 week interval up to 12 weeks. The secondary efficacy was evaluated by percentage reduction in palmoplantar area involvement at 2 weekly intervals. The investigator assessed the response to treatment by means of PGAS (Physicians Global Assessment Scale). All adverse events, whether or not considered causally related to study drug were documented immediately and any serious adverse events were recorded separately.

Results:
1. At 12 weeks, in tazarotene group, mean ESFI score reduced to 1.12 that is 83.2% (5.529) reduction from mean ESFI at baseline and the mean area reduced by 64.5% (1.7) to 0.94 from mean area of 2.65 at baseline. 52.9% showed complete clearance (100% improvement), 17.6% showed excellent response (75-99% improvement), 23.5% showed good response (50-74% improvement) and 5.9% showed less than 50% improvement. None experienced any side effects. There was consistent, significant and steady improvement in the ESFI score and area involved at each visit in comparison with their baseline values. This concludes that tazarotene is efficacious in treatment of palmoplantar psoriasis.
2. At 12 weeks, in clobetasol propionate group, mean ESFI score reduced to 0.62 that is 89.1% (5.07) reduction from Mean ESFI at baseline and the mean area reduced by 81.3% (2.0) to 0.46 from mean area of 2.46 at baseline. 61.5% showed complete clearance (100% improvement), 15.4% showed excellent response (75-99% improvement) and 23.1% showed good response (50-74% improvement). None showed less than 50% improvement. 53.8% developed hypopigmentation as side effect. None of the patients developed atrophy as a side effect.
3. Reduction in ESFI in clobetasol group was statistically significant at 2, 4, 6 and 8 weeks compared to tazarotene group. The reduction in ESFI at 10 and 12 weeks in both groups showed no statistical difference. At the end of study (12 weeks), tazarotene group showed 83.2% reduction, while clobetasol group showed 89.1% reduction from the baseline mean ESFI score. Although clobetasol group showed slightly better response in reducing Mean baseline ESFI score than tazarotene at the end of study, it was not statistically significant. Hence, clobetasol propionate acts faster as compared to tazarotene but at 12 weeks both have an equal efficacy.

4. There was complete subsidence of erythema in all patients receiving clobetasol propionate at 10 weeks being statistically significant. Clobetasol propionate causes faster resolution of scaling but at 12 weeks resolution of scaling in both groups is statistically insignificant. Clobetasol propionate causes statistically significant reduction of fissuring at 2 and 4 weeks with complete resolution at 6 weeks whereas tazarotene causes resolution of fissuring at 8 weeks. Reduction in induration is equivalent in both groups.

Conclusion: Tazarotene is efficacious in the treatment of palmoplantar psoriasis. Although tazarotene has proved its efficacy in treating palmoplantar psoriasis, clobetasol propionate has a faster onset of action in the treatment of palmoplantar psoriasis than tazarotene and hence, it is still gold standard therapy. Tazarotene is a good alternative drug for the treatment of palmoplantar psoriasis where hypopigmentation limits use of clobetasol propionate cream on a long run. Follow-up studies are recommended to compare and observe the efficacy of two drugs in maintaining the remission and also to compare long term safety profile of the two drugs.

FC6-3
Recovery of Tanning Induced by Narrow Band UVB Phototherapy in Korean Brown Skin
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Background: Narrow-band UVB phototherapy using TL-01 lamps is in widespread use due to its greater efficacy and safety compared with broad-band UVB sources. However, pigmentation induced by phototherapy can cause complaint of patients especially in brown skin. Furthermore, skin tanning may change the therapeutic response to phototherapy. However, it is not known how long it will take to recover from tanned skin to original skin color.

Objective: The purpose of this study is to evaluate the time required to recover to original skin color after NBUVB phototherapy.

Method: Total 47 psoriasis patients who took phototherapy with NBUVB until achievement of grade IV were enrolled. Changes in skin color were recorded during phototherapy and after treatment using two different reflectance spectrophotometers.

Results: L-value reached 79% at 6 months and 99% at 8 months after cessation of phototherapy. Melanin index was significantly indifferent with initial value since 4 months.

Conclusion: The understanding of time course of tanning induced by phototherapy and modulation of phototreatment regimen can provide more effective result in repetitive phototherapy.

KEYWORD: Tanning, NBUVB, Phototherapy
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FC 6-4
The Study on Dose Incremental Regimen for Narrow-band UVB Phototherapy in Psoriasis Patients

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Background: The optimum narrow-band UVB dose incremental regimen which will provide maximum efficacy and safety has not been determined yet. Although currently many authors advocate 10% to 20% dosage increments, other incremental regimens such as 5%, 15%, 40% and fixed incremental regimens are also being used according to clinics.

Objective: The aim of this study was to compare 10% with 20% incremental regimens in narrow-band UVB phototherapy in psoriasis patients.

Method: Total 128 patients were recruited from psoriasis clinic of Seoul national university hospital between March 2003 and December 2006. Ninety-one patients started narrow-band UVB phototherapy with 20% incremental regimen, whereas 37 started with 10% incremental regimen. We compared 10% increment group with 20% increment group with regard to total number of treatments, total treatment duration, final dose, total cumulative dose to achieve grade 4 (95% improvement) and adverse effects.

Results: Twenty-one (23%) patients who started with 20% increment changed into 10% increment during phototherapy because of adverse events such as burning, erythema or pruritus. However, there was no statistically significant difference between both groups in regard to percentage of adverse effects. The mean number of treatment to achieve grade 4 was significantly higher and treatment duration was also longer in 10% increment group than in 20% increment group. On the other hand, final dose and total cumulative dose were higher in 20% increment group comparing with 10% increment group.

Conclusion: 20% incremental regimen have the advantage of faster treatment response and higher cost-effectiveness. Conversely, 10% incremental regimen have the advantage of lower maximum and cumulative doses as well as of reducing potential long-term risk of UVB exposure.

KEYWORDS: Phototherapy, Psoriasis, Dose incremental regimen
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FC 6-5
Quality of Life and Health-state Utilities in Psoriasis Patients at the National Skin Centre, Singapore

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Psoriasis is a chronic skin disease affecting a significant proportion of our Singaporean population. Patients experience a wide range of symptoms which affect their lives, ranging from trivial problems to major handicaps. It is thus important for dermatologists to use Quality of Life (QOL) measurements to monitor the progress of psoriasis patients, as the QOL of such patients may be underestimated by objective assessments of clinical severity (e.g. the Psoriasis Area and Severity Index (PASI)).

In our study, we measured the quality of life of psoriasis patients using a general scale (SF-36), a disease-specific scale (Psoriasis Disability Index - PDI) and a visual analogue scale. Two health-state utilities, namely the time trade-off and willingness to pay indices, were assessed as well. Health-state utilities are important and sensitive indicators of QOL in patients with acute and chronic diseases, and are important to health economists for cost-utility analysis. The PASI score, an objective assessment based on clinical examination, was also obtained. To assess the economic impact of the disease, patients were also asked about the amount of money spent over the past 6 months on the disease, and the number of days of absenteeism from work or school over the past 3 months.

From September 2007 to February 2008, we recruited 215 patients, of which 174 (80.9%) were from the Psoriasis or Phototherapy Clinic, and the rest from the General Clinic. 152 (70.6%) patients were male and 41 (29.4%) were female, comprising 71.6% Chinese, 14.4% Malays, 12.6% Indians and 1.4% Eurasians. The average age was 49.4 years. 155 (72.1%) of patients had monthly income of less than $2000. The mean duration of disease was 13.6 years, with chronic plaque psoriasis (91.6%) being the most common clinical subtype.

Hypertension, hyperlipidaemia and diabetes mellitus were the most commonly found comorbidities, occurring in 31.6%, 20.9% and 19.1% of patients respectively. Psoriatic skin lesions were present in areas unable to be concealed by clothing in almost all patients (98.1%), and arthritis was present in almost a quarter (27.4%). Regarding treatment modalities, almost all the patients were on topical steroids, topical coal tar preparations and moisturizers. Other treatments received are as follows: methotrexate in 40.4% of patients, phototherapy 23.3%, acitretin 16.2%, cyclosporine 7.0% and 5.1% biologic agents.

The mean PASI score was 14.79 and the mean PDI 9.35. The SF-36 assessment showed the lowest scores for the energy/fatigue levels and the general health category in our group of psoriasis patients. The average estimated expenditure over the past 6 months was $402. 20 patients were on full financial subsidy, and 14 patients had spent in excess of $1000 for their treatment over that duration. The average time-trade-off was 3.74 years of life, with 6 patients willing to give up their entire lifespan for an immediate cure. The patients were willing to give up 34% of their income/savings, on average, for an immediate cure for their condition.

This study illustrates that psoriasis can significantly affect patients to the extent that they are willing to trade their years of life or income in search of a cure. These data will be of use to health care providers and research funding agencies when assessing the impact of psoriasis on the affected population.

References
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FC 6-6
Topical Formulation of Pyrithione Zinc in the Treatment of Psoriasis

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Background: Psoriasis is a chronic common condition of the skin that is still resistant to many therapies. Aim: The efficacy of topical formulation of pyrithione zinc in an emollient base compared with emollient base alone in the treatment of psoriasis.

Methods: This was a randomized double blind clinical trial. Patients with psoriasis involved less than 10% of body skin areas were enrolled in the study. They were randomly allocated to one of two treatment groups. Group A was treated with topical emollient cream containing 0.25% pyrithione zinc and group B was treated with topical emollient cream alone twice daily for 3 months. Response to treatment was assessed with decreasing PASI score by the formula according severity of thickness, redness and scaling.

Results: Of 60 participating patients in Group A and 30 patients in Group B, the mean PASI score before and after treatment was 3.4±1.3 and 0.9±1.3 in group A (p<0.01) and 4.3±2.0 and 3.9±1.1 in group B (p=0.05), and there was significant difference between the mean of PASI score at the end of the study between two groups (p<0.01).

The mean of the difference of the PASI score before and after treatment was 2.4±2 and 0±0.1 in A and B group respectively (p<0.01). The percent of decrease in mean of PASI score was 70.5% in group A and 9.3% in group B. Five patients in group A and no patient in group B were cleared at the end of the study.

Conclusion: Topical formulation of pyrithione zinc in an emollient base can be used as a safe and effective treatment for psoriasis.

KEYWORDS: Psoriasis, Pyrithione zinc, Emollient
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FC 6-7
Two Atypical Variants of Lichen Planus: Atrophic and Palmar

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Lichen planus (LP) is an idiopathic inflammatory disorder of the skin and mucous membranes. Several clinical variants of LP have been described. The atrophic form of LP is rare and is characterized by the presence of a few, well-demarcated, white-bluish papules or plaques with central atrophy. They are most common on the lower extremities or trunk but are rare on the face. Palmoplantar LP is rare and difficult to diagnose especially in cases presenting with solitary lesion. We report two atypical variants of LP: one case of atrophic LP in a 38-year-old man who had a few, grouped atrophic patches on the forehead, and the other case of palmoplantar LP in a 54-year-old woman who presented with a solitary hypertrophic plaque on the left palm. Histopathologically, both cases commonly showed an interface dermatitis with lichenoid inflammation, consistent with LP.

KEYWORDS: Atrophic lichen planus, Palmoplantar lichen planus
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FC 6-9
The Effect of Occlusion Therapy on the Expression of Antimicrobial Peptides in Psoriasis Lesion

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Background: Psoriasis is a chronic inflammatory disorder that is mediated by elements of the innate and adaptive immune systems. Interestingly, many antimicrobial peptides and proteins (AMPs), endogenous natural antibiotics, were identified in psoriatic-scale extracts such as cathelicidin, S100-proteins, human β-defensins (hBDs), RNase, lysozyme, and many more. In contrast, deficiency in expression of AMPs in skin lesions of patients with atopic dermatitis has been reported to account for the high occurrence of gram-positive skin infections in those patients whereas psoriatic patients do not.

Objective: Our previous study showed that the occlusion therapy was effective for skin barrier function improvement in psoriasis lesion. The normalization of the permeability barrier and epidermal calcium gradient may play important roles in the therapeutic effects of occlusive dressings in chronic plaque type psoriasis. We want to know what the occlusion therapy effects on the expression of antimicrobial peptides in psoriasis lesion.

Methods: We compare the AMP (ex.)LL37 and human beta-defensin 2) expression before to after occlusion therapy on psoriasis lesion for 1 week by confocal microscopic findings. We also compare the effects of narrow band UVB, daivobet and occlusion on AMP expressions.

Results: The AMP expressions were decreased in confocal microscopic findings by occlusion therapy. Conclusion: The occlusion therapy is effective for recovery the barrier status, but recovered barrier status cannot be enough to stimulate the expression of AMP in psoriatic lesion for protecting from various pathogens.

KEYWORDS: Occlusion, Psoriasis, Antimicrobial peptides
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