malignant melanoma in Korean patients
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Background: As malignant melanoma is rising in Korea as well as western countries, a considerable number of melanoma patients recur after operation.

Objectives: The aim of this study was to investigate the clinicopathologic features of recurrent malignant melanoma after operation and to predict risk of recurrence.

Methods: A retrospective study was conducted for primary cutaneous melanoma patients who got operation for curative purpose on single tertiary hospital in Korea from Jan 2009 to Feb 2014.

Results: Among 126 patients, 56 males and 70 females were included and the age at diagnosis was 59.3 years. The surgical methods were wide excision or amputation. The median follow up duration was 27.3 months (range 6.4 – 68.5), and 42 cases (33.3%) recurred. The recurrence rate was significantly different according to the tumor location, histologic subtype, and stage. In melanoma on hands or feet, 16 out of 79 cases (20.6%) recurred, while other site melanoma recurred in 26 out of 47 cases (55.3%). The recurrence rate of acral lentiginous type and nodular type was 11.11% (7 out of 63), and 74.3% (26 out of 35), respectively. A significant correlation was found between stage at the operation and recurrence rate. Recurrence rate were as in the following: melanoma in situ (9.1%), stage I (12.9%), stage II (45.8%), and stage III (56.0%).

Conclusion: In Korean postoperative melanoma patients, close surveillance to detect recurrence is required, especially for non-acral type melanoma or advanced stage.

Keyword: Melanoma, Recurrence, Postoperative

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3D reconstruction of plantar epidermal cyst: a research on the possibility of epidermoid metaplasia of the eccrine duct epithelium
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Background: Although epidermal cyst is one of the most common benign neoplasm of the skin, it is rare on palmoplantar area. Certain palmoplantar epidermal cyst has been suggested to be related to eccrine duct or human papillomavirus infection.

Objectives: To look into the relationship between eccrine duct structure and the palmoplantar epidermal cyst

Methods: A paraffin block of a relatively well-preserved plantar epidermal cyst was chosen and was sectioned serially by 5um thickness. A three-dimensional reconstruction analysis was done to observe the relationship between structure of the cyst and eccrine duct.

Results: We could not find out the exact connection point of the cyst and the eccrine duct but there were some noticeable findings. The plantar epidermal cyst had a bulge like a navel in epidermal side. It was located in deep dermal layer, in between abundant sweat glands around it. There were many eccrine dermal duct, most of which directed to the sweat glands, but some of them did not direct any of the sweat glands, which might be connected to the cyst.

Conclusion: Plantar epidermal cyst might be connected with the eccrine dermal duct, supporting the hypothesis that certain plantar epidermal cyst develop from epidermoid metaplasia of eccrine duct.

Keyword: Eccrine duct, Epidermal cyst, Metaplasia, 3D reconstruction

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Application of parallel-polarized light(PPL) images with green light in various skin diseases
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Background: The characteristics of skin can be analyzed by parallel-polarized light(PPL) photography. PPL image with green light-emitting diodes(LED) show more quantitative difference than white depending on the state of skin.

Objectives: To determine skin diseases appropriate for PPL images with green and white LED.

Methods: For 10 cases of each disease: acne, atopic dermatitis, nummular eczema, rosacea, seborrheic dermatitis, pruritus and xerotic dermatitis, on every lesion and normal skin, PPL images were taken with green and white LED and converted to CIELAB coordinates. Skin hydration level, disease severities and clinical grading of dryness were
evaluated.

**Results:** In atopic dermatitis, severity had correlation with a* (r=-0.67420, p=0.0325) and b* (r=0.67420, p=0.0325) in green LED. In rosacea, dryness of lesion had correlation with severity (r=0.67776, p=0.0154) and L* (r=-0.71758, p=0.0086), a* (r=0.67941, p=0.0151) in green LED. In xerotic dermatitis, severity had correlation with dryness (r=0.98837, p<0.0001) and skin conductance value (r=-0.78377, p=0.0073) of lesion. Dryness of lesion had correlation with L* (r=-0.69228, p=0.0265), a* (r=0.69228, p=0.0265) and b* (r=-0.69228, p=0.0265) in green LED.

**Conclusion:** In atopic dermatitis, rosacea and xerotic dermatitis, dryness and skin conductance value had significant correlations with some of L*, a*, b* in green LED, and disease severity. Applied properly, PPL images with green LED could be utilized for evaluation of various skin diseases.

**Keyword:** Parallel-polarized light, Light-emitting diode, Skin conductance

**P260**

**Photo-protective effect of arctiin by changes in microRNA expression against UVB-induced keratinocytes damage**

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**Background:** Arctiin has been isolated from several plants such as Arctium lappa and Forsythiae fructus. Previous studies demonstrated that arctiin exerted a protective effect against lipopolysaccharide (LPS)-induced inflammation and had anti-proliferative and anti-microbial functions.

**Objectives:** In the present study, we demonstrated that photo-protective effect of arctiin on UVB-induced damaged keratinocyte through specific changes in miRNA expression.

**Methods:** To determine the cytotoxicity of arctiin, a cell viability assay was performed using water-soluble tetrazolium salts. We performed the cell cycle distribution was examined by PI staining and flow cytometry to determine the protective effect of arctiin on UVB-exposed HaCaT cells. To examine whether arctiin pretreatment induced UVB resistance through the regulation of the cell migration associated with wound healing, a series of scratch assays were performed in the HaCaT cells.

**Results:** The cellular and molecular assays demonstrated a novel role for arctiin in UVB protection in keratinocytes, which was mediated by miRNA responses and the suppression of UVB-induced cell death. In addition, we demonstrated that arctiin is implicated as a potential chemopreventive agent through UVB protection of keratinocytes.

**Conclusion:** The photo-protective effects of arctiin were associated with changes in the expression levels of specific microRNAs (miRNAs) in HaCaT cells.

**Keyword:** Arctiin, Photo-protective effects

**P261**

**Protective effects of troxerutin against ultraviolet B radiation in normal human dermal fibroblasts**

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**Background:** In the dermis, fibroblasts play a critical role in maintaining homeostasis. UV triggers apoptosis and growth arrest in fibroblasts. Therefore, UV radiation is one of the major inducers of disorders of the dermis. Troxerutin is a derivative of the natural bioflavonoid. As troxerutin has been shown to have radioprotective, anti-inflammatory and antioxidant effects, it seems likely that troxerutin may protect cells against UV-induced oxidative stress and DNA damage.

**Objectives:** To investigate the mechanisms by which troxerutin protects cells against ultraviolet B (UVB) radiation.

**Methods:** First, we demonstrate that pretreatment with troxerutin protects normal human dermal fibroblasts (nHDFs) against UVB-induced cytotoxicity. Subsequently, we analyzed microRNA (miRNA) expression profiles in the nHDFs.

**Results:** Troxerutin increased cell migration and DNA repair activity in the nHDFs. In UVB-exposed cells, miRNAs act on crucial functions, such as apoptosis and cellular senescence. miRNA expression is significantly altered during the protective process induced by phytochemicals.

**Conclusion:** In this study, our findings indicate that pre-treatment with troxerutin increases the viability of UVB-exposed nHDFs through the alteration of the miRNA expression profiles.

**Keyword:** Troxerutin against, Human dermal fibroblasts