

FCP-11

Elevation of IL-1RA and IL-17 in psoriasis patient with eruptive inflammatory phenotype

Department of Dermatology, Konkuk University School of Medicine, Seoul, Korea

Ho Jung Jung, Jae Wook Jung, Hyung Jin Hahn, Young Ji Hwang, Yang Won Lee, Yong Beom Choe, Kyu Joong Ahn

Plaque-type psoriasis manifests with various morphological phenotypes and different clinical activity over time in the same individual or from one patient to another. Circulating cytokines, especially T-helper (Th) 1- and Th17-related, have been suggested to reflect the inflammatory nature of psoriasis. However, studies regarding cytokine profile according to morphological phenotypes are quite scarce. We sought to analyse the circulating Th1 and Th17 cytokines according to clinical phenotype and investigated the correlation between disease severity [Psoriasis Area and Severity Index (PASI)] and the serum level of inflammatory cytokines. Seventy-one patients with psoriasis were divided into two groups according to clinical phenotype: chronic stable (CS) and eruptive inflammatory (EI). Th1- and Th17-derived cytokines were measured using multiplex cytokine assay. It was noted that interleukin (IL)-1 receptor antagonist and IL-17A were elevated in the EI group compared with the CS group. We also noticed that the PASI is relatively well correlated with serum cytokine level in the CS state but not as well in the EI counterpart. The level of serum inflammatory cytokines differs according to morphological phenotype. Also, the PASI does not seem to be a suitable tool to assess disease severity in patients with psoriasis with EI characteristics.

Key Words: Psoriasis, IL-1, IL-17, Eruptive inflammatory phenotype

FCP-12

Medical comorbidities in early onset AGA patients

Department of Dermatology and Institute of Hair and Cosmetic Medicine, Yonsei University Wonju College of Medicine, Wonju, Korea

Noo Ri Lee, Sung-yul Lee, Won-Soo Lee

Androgenetic alopecia (AGA) is a specific type of hair loss mediated by systemic androgen and genetic factors, and is the

most common type of hair loss in both sexes. Epidemiological studies have shown that insulin resistance and coronary artery disease are more frequently observed in men with AGA, and early onset AGA patients (younger than 35 years) were shown to have higher risk for systemic diseases such as insulin resistance and hypercholesterolemia than late onset AGA patients. There have been several reports on the epidemiologic studies of medical co-morbidities in early onset AGA in Caucasians, but few studies on Asians have been reported. We performed a retrospective study with early onset AGA by reviewing 810 medical records of patients diagnosed as AGA before 35 years who visited Yonsei Wonju Christian hospital in the last 10 years. We checked their laboratory findings that represent risk factors of cardiovascular and cerebrovascular diseases, such as fasting glucose level, lipid profiles, and insulin level. Also, we reviewed their medical histories. As results, early onset Korean AGA patients group showed no significant differences compared to non-AGA control group with similar ages in the laboratory findings that indicate cardiovascular and cerebrovascular disease risk. This is notable that ethnic difference is likely to present in relevance of medical co-morbidities with early onset AGA patients.

Key Words: Androgenetic alopecia, Medical comorbidities, Early onset

FCP-13

Effect of mycophenolic acid and rapamycin on hair growth

St. Paul's Hospital, Department of Dermatology, College of Medicine, The Catholic University of Korea, Seoul, Korea, ¹Department of Dermatology, Chung-Ang University College of Medicine, Seoul, Korea

Won Joon Choi, Kwanho Jeong, Ye Jin Lee, Jung Eun Kim, Beom Joon Kim¹, Young Min Park, Hoon Kang

Mycophenolic acid (MPA) blocks DNA synthesis and inhibits T and B lymphocyte proliferation. MMF diminishes signs and symptoms of active lichen planopilaris significantly. Rapamycin (RPM) inhibits mTOR activation and cell senescence and blocks hair follicular cell alteration. The goal of this study is to examine the effect of MPA and RPM. In addition, experiments were carried to determine the most adequate concentrations of these drugs for hair growth of mice. 13 mice (C3H/HeJ female: 7week of age) were divided

into 3 groups and all mouse dorsal hairs were depilated. MPA and RPM were applied to the each group during 3weeks (5times a week) according to concentration (1nM, 10nM, 100nM, 1000nM). Additionally, MPA+RPM were applied to the group during according to concentration (MPA 100nM+RPM 1nM, 10nM, 100nM, 1000nM). Hair growth after applying the agents were evaluated with photograph and hand held digital microscope. To examine hair follicular status and its related growth factors, specimens were obtained by excision biopsy from the dorsal aspect of each mouse. 1000nM MPA showed most effective hair growth in mouse. Especially, IGF-1, Wnt3a, Wnt10b and β -catenin were significantly increased gene expression in the 1000nM MPA group compared to control, whereas, the expression of VEGF mRNA was not detected. This study was supported by a grant of the Korean Health Technology R&D project, Ministry for Health & Welfare, Republic of Korea. (A092258)

Key Words: Mycophenolic acid, Rapamycin, Hair growth

FCP-14

PD-1 can be an important marker in differentiating mycosis fungoides from other cutaneous T cell lymphoma

Department of Dermatology, Ajou University School of Medicine, Suwon, Korea, ¹Department of Pathology, Ajou University School of Medicine, Suwon, Korea

Ji-Hye Park, Jae Ho Han¹, You Chan Kim

A distinct subset of T helper cells, named follicular helper T cells (TFH), has been recently described. TFH cells can be identified by the expression of several markers including the chemokine CXCL13, the costimulatory molecules PD-1 and inducible costimulator (ICOS), and the transcription factor Bcl-6. They appear to be expressed in several subsets of T cell lymphoma. However, their expressions have been rarely described in cutaneous T cell lymphoma. We investigated the expression of TFH markers in cutaneous T cell lymphoma (CTCL) and their usefulness of differentiating mycosis fungoides from other CTCL. TFH expression was analyzed by immunohistochemical staining in 23 mycosis fungoides (MF) and 25 other CTCL. PD-1 expression was observed in 20 cases (87.0%) of MF and 11 cases (44.0%) of other CTCL. Bcl-6, CXCL13, ICOS expression rates were 26.1%, 30.4%, and 30.4% in MF and 28.0%, 36.0%, and 24.0% in other

CTCL, respectively. PD-1 was superior to Bcl-6, CXCL13 and ICOS for sensitivity and specificity. Our data suggest that PD-1 is a MF-sensitive marker and it can be useful in differentiating MF from other CTCL. Other TFH markers, except PD-1, showed lower expression rates and sensitivity in most of cutaneous T cell lymphoma, therefore, they are not useful as differentiating markers. High expression rate of PD-1 in MF suggest that MF may originate from TFH.

Key Words: Follicular helper T cell marker, Cutaneous T cell lymphoma, Mycosis fungoides, PD-1

FCP-15

Vitamin D increases cathelicidin and decreases inflammatory cytokines in cultured sebocytes

Department of Dermatology, Kyungpook National University School of Medicine, Daegu, Korea

Jin Sub Lee, Sang Lim Kim, Hyun Wuk Cha, Chang Hyun Song, Kyung Duck Park, Hyun Jung Lim, Mi Yeung Sohn, Seok-Jong Lee, Do Won Kim, Weon Ju Lee

Altered expression of Antimicrobial peptides (AMPs) and inflammatory cytokines have been described in chronic inflammatory skin disorders, including acne. It is known that sebocytes as well as keratinocytes synthesize many kinds of AMPs and inflammatory cytokines. It has been reported that vitamin D is associated with biological functions regulating inflammatory process in various cells, including sebocytes. This study aimed to clarify changes in the expression of AMPs and inflammatory cytokines from cultured sebocytes after treatment with vitamin D. RT-PCR was done to measure changes in the expression of AMPs, inflammatory cytokines, matrix metalloproteinases, and keratinocyte differentiation markers after treatment of cultured sebocytes with vitamin D (10⁻¹⁰ to 10⁻⁶). Vitamin D receptor siRNA was added to cultured sebocytes to assure the role of vitamin D on the gene expression of biomarkers in cultured sebocytes. ELISA, western blotting and immunocytofluorescence were also performed. Vitamin D-knockout mice were also evaluated with immunohistochemistry before and after treatment with vitamin D. The results showed significantly increased expression of cathelicidin and decreased expression of IL-1 β , IL-6 and IL-8 in cultured sebocytes after treatment with vitamin D. In conclusion, vitamin D may be one of the alternative therapeutic agents to target sebaceous glands in acne.