The 17th Annual Meeting
The Korean Society for Psoriasis

PROGRAM BOOK

September 14, 2013

Bear-Hall, Seoul, Korea

Organized by
The Korean Society for Psoriasis
Co-sponsored by
The Korean Dermatological Association
The Korean Society for Investigative Dermatology

인사말씀

대한건선학회 회원 여러분

안녕하십니까? 올해는 유난히 지루한 장마와 폭염이 지속되고 있습니다. 그렇지만 여름에 흘린 땀방울이 가을의 풍성한 수확으로 연결된다는 믿음으로 제17회 대한건선학회 연례학술대회를 준비하였습니다.

건선은 질환의 개념, 기전, 치료법 등 모든 분야가 급격한 변화를 보이는 피부과의 대표적인 중증 만성 질환입니다. 이와 같은 급격한 변화로 인하여 건선분야를 전공하는 분들을 포함하여 모든 피부과 전문의에게 지속적인 보수교육(CME)이 필요하게 되었습니다. 이에 대한건선학회는 정규 연례학술대회 외에 '생물학적 제제 및 전신치료제 심포지움'과 '대한피부과학회 춘계학술대회 건선 심포지움' 등의 추가적인 학습의 장을 제공하고 있습니다. 연례학술대회는 대한건선학회의 공식 연례 학술행사 중에서 가장 중요한 행사로서 벌써 17회로 접어들었습니다.

금년에는 이와 같은 변화를 반영하여 여러 분야의 특강 연자를 모시고 배움과 논의의 기회를 갖고자 합니다. Jichi의대의 Ohtsuki 교수는 새롭게 개발되고 있는 치료제에 대한 최신 정보를 제공해 주실 것이며 Gifu대학의 Seishima 교수는 건선 치료에 있어서 효능과 안전성을 예측할 수 있는 생물학적 지표와 이를 이용한 적정 치료의 문제를 논의의 장에 올려주실 것입니다. Fukuoka대학의 Imafuku 교수는 단순 피부질환의 영역을 벗어나 관절 및 대사 이상의 문제를 포괄하게 된 건선의 다양성을 어떻게 극복할 것인가에 대해 강의해 주실 것입니다. 덴마크 Aarhus대학의 Fogh 교수는 최근 가장 주목을 받고 있는 국소치료에 있어서의 순응도의 문제를 집중 조명할 것입니다. 이 연제들은 건선을 테마로 연구를 하고 계시는 연구자와 교수진뿐만 아니라 개원하여 건선환자를 보고 계시는 선생님들에 이르기까지 매우 다양한 청중의 이슈를 담아내고 있다고 생각합니다. 이외에도 자유연제와 교육강연이 준비되어 있습니다.

대한건선학회는 환자 교육을 위한 '건선학교' 프로젝트, 순응도 향상을 위한 모바일 애플리케이션 개발, 건선 인지도 제고를 위한 '세계건선의 날' 캠페인 등을 금년도 중점 추진 과제로 준비하고 있습니다. 그러나 학술대회는 모든 학회활동의 중심이라고 말할 수 있습니다. 그리고 이 학술대회의 성공은 회원 여러분의 적극적 참여에서 시작된다고 믿습니다.

아무쪼록 회원 여러분의 적극적인 참여와 논의의 장이 될 수 있기를 희망하며 변덕스런 날씨에 건강하시길 기원합니다.

2013. 9. 14

대한건선학회 회장 **이 주 흥**

INFORMATION

◆ **등록비**

정회원: 현장등록 3만원, 사전등록 2만원

비회원: 현장등록 6만원, 사전등록 5만원(회원 가입시 정회원과 동일하며 회원 가입 첫 회 회비 면제) 전공의 및 65세 이상 회원 면제

◆ **연회비**

정회원: 2만원

65세 이상 면제

회원 가입 첫해 면제

◆ **Official Language**

모든 발표자료는 영어로 작성되어야 하며, 연제 발표 시 국내 연자는 한국어를 사용하고 외국인 연자는 영어를 사용하여 발표합니다.

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모든 발표자들께서는 발표 1시간 전까지 발표자료(파워포인트 파일)를 CD-ROM, 또는 USB memory에 수록된 형태로 제출하여 주시기 바랍니다.

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◆ **간친 행사 안내**

모든 참석자들을 위한 Cocktail party (오후 5:30 ~)가 있사오니 많은 참석을 바랍니다.

PROGRAM

MORNING SESSION

09:30-09:50 **등 록**

09:50-10:00 **개회사** **이주흥** (대한건선학회 회장)

축 사 **김홍직** (대한피부과학회 회장)

10:00-11:00 **자유연제(1)** 좌장: **최지호** (울산의대), **노영석** (한양의대)

FC-7 Reccurance of Zumbusch Type Pustular Psoriasis after Recovering Impetigo Herpetiformis ····· 33

JEON Jae-Wook, KIM Kyung-Ho, JEONG Hye-Jung, KIM Min-Soo, AHN Ji-Young, PARK Mi-Youn, YOUN Jai-Il
Department of Dermatology, National Medical Center

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Department of Dermatology, National Medical Center

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Yoon Young-Hoon, Lee Youn-Mi, Lee Kyung-Ho, Park Chul-Jong
Department of Dermatology, Bucheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea

11:00-11:40 [Special Lecture] 좌장: **윤재일** (국립중앙의료원)

"Overview of Emerging Therapies" ····· 12

Prof. **Mamitaro Ohtsuki** *(Jichi Medical University, Japan)*

11:40-12:20 [Special Lecture] 좌장: **김광중** (한림의대)

"Optimal Management of Psoriasis: Are There Any Biomarkers / Predictors of Treatment Efficacy and Adverse Effects?" ····· 14

Prof. **Mariko Seishima** *(Gifu University Graduate School of Medicine, Japan)*

12:20-14:00 **점심식사(학회제공) 및 평의원회**

AFTERNOON SESSIONS

14:00-14:40 [Special Lecture] 좌장: **김낙인** (경희의대)

14:40-15:20 [Special Lecture] 좌장: **이주흥** (성균관의대)

15:20-16:20 자유연제(2) 좌장: **계영철** (고려의대), **김태윤** (가톨릭의대)

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YOU Hyang-Suk[1], CHO Hyun-Ho[1], KIM Won-Jeong[1], MUN Je-Ho[1], SONG Margaret[1], KIM Hoon-Soo[1], KO Hyun-Chang[1,4], KIM Moon-Bum[1,4], LEE Seung-Geun[2], LEE In-Sook[3], KIM Byung-Soo[1,4]

[1]Department of Dermatology, School of Medicine, Pusan National University
[2]Department of Rheumatology, School of Medicine, Pusan National University
[3]Department of Diagnostic Radiology, School of Medicine, Pusan National University
[4]Biomedical Research Institute, Pusan National University Hospital

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JEON Jae-Wook[1], KWON Hyuck-Hoon[2], KIM Kyung-Ho[1], JEONG Hye-Jung[1], KIM Min-Soo[1], JO Seong-Jin[2], AHN Ji-Young[1], PARK Mi-Youn[1], YOUN Jai-Il[1]

[1]Derpartment of Dermatology, National Medical Center
[2]Department of Dermatology, Seoul National University Hospital

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KIM Soo-Young, JUNG Ho-Jung, JUNG Jae-Wook, HAHN Hyung-Jin, LEE Yang-Won, CHOE Yong-Beom, AHN Kyu-Joong

Department of Dermatology, Konkuk University School of Medicine

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ROH Nam-Kyung, KIM Yu-Ri, LEE Yu-Na, HWANG Young-Ji, LEE Yang-Won, CHOE Yong-Beom, AHN Kyu-Joong

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

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PARK Geon-Tae[1], HAN Ji-Hye[1], PARK Sin-Gi[2], KIM Sang-Soo[2], KIM Tae-Yoon[1]

[1]Department of Dermatology, College of Medicine, The Catholic University of Korea
[2]Department of Bioinformatics & Life Sciences, Soongsil University

16:20-16:40 *Coffee Break*

16:40-17:10 **교육강연** 좌장: **송해준** (고려의대)

The Assessment of Psoriasis Severity: PASI, BSA, DLQI ····· 23

YOUN Sang-Woong *(Department of Dermatology, Seoul National University College of Medicine, and Seoul National University Bundang Hospital)*

17:10-17:30 **폐회 및 총회**

17:30- **간친회**

SPECIAL LECTURES

CURRICULUM VITAE

Mamitaro Ohtsuki, M.D., Ph.D.
Department of Dermatology,
Jichi Medical University,
Japan

Education and Positions:

1986 University of Tokyo, Faculty of Medicine, M.D.
Junior Staff Member, Department of Dermatology, Faculty of Medicine, University of Tokyo
1990 Research Fellow, Department of Dermatology and Molecular Biology, New York University Medical Center, USA (c/o Prof. Irwin M. Freedberg)
1993 Clinical Assistant, Department of Dermatology, Faculty of Medicine, University of Tokyo
1994 Assistant Professor, Department of Dermatology, Faculty of Medicine, University Tokyo
1998 Associate Professor, Department of Dermatology, Jichi Medical School
2004 Professor and Chairman, Department of Dermatology, Jichi Medical University

Membership of Academic Societies:

Japanese Society for Investigative Dermatology (Councilor)
Japanese Skin Cancer Society (Councilor)
Japanese Society for Psoriasis Research (Councilor)
Japanese Society of Allergology

Speciality:

Atopic dermatitis
Psoriasis
Keratins

SL-1

Overview of Emerging Therapies

Mamitaro Ohtsuki, M.D., Ph.D.

Department of Dermatology,
Jichi Medical University, Japan

Psoriasis treatment has changed significantly since the introduction of biologics as new treatment options, such as TNF-alpha inhibitors and IL-12/23p40 antibodies. While biologics are critical in targeting specific cytokines responsible for initiation and maintenance of psoriasis and are highly effective in treating various manifestations of psoriasis, including nails and arthritis, it is known that primary and secondary failures occur at a certain rate for a specific patient group. In addition, there are patients who cannot continue biologic therapy due to adverse events.

Under these circumstances, several biologics targeting various cytokines are currently in clinical trials. Promising biologics include IL-23p19 antibodies, IL-17A antibodies, and IL-17 receptor antibodies. In particular, IL-17A antibodies and IL-17 receptor antibodies showed high efficacy in treating plaques in a phase II trial.

IL-20 antibodies and IL-22 antibodies are also being developed; however, further research is needed to complete the evaluation of these drugs.

Another concern with biologics is the high cost of treatment. For this reason, it is hoped that next-generation low molecular weight compounds will be developed to replace existing oral systemic therapies, such as methotrexate and cyclosporine.

At present, JAK inhibitors and PDE4 inhibitors are being developed but efficacy, safety and other factors still need to be evaluated comprehensively. It is interesting to see what data will be obtained and how these drugs will be positioned in the management of psoriasis relative to biologics.

CURRICULUM VITAE

Mariko Seishima, M.D., Ph.D.
Department of Dermatology,
Gifu University Graduate School of Medicine,
Japan

Education:

1986	PhD from Gifu University
1980	MD from Gifu University School of Medicine

Postdoctoral Training:

1988-1990	Postdoctoral fellow in Department of Dermatology New York University School of Medicine
1980-1988	Clinical fellow, Gifu University Graduate School of Medicine

Academic Appointments:

2009-present	Professor and Chair, Gifu University Graduate School of Medicine
1992-1998	Assistant Professor, Gifu University Graduate School of Medicine
1990-1992	Instructor, Gifu University Graduate School of Medicine

Hospital Appointment:

1998-2009	Chief, Department of Dermatology, Ogaki Municipal Hospital

Society:

Japanese Dermatological Association
Japanese Society for Investigative Dermatology
Japanese Society for Psoriasis Research
American Academy of Dermatology
Society for Investigative Dermatology
European Academy of Dermatovenereology
International Society for Apheresis

SL-2

Optimal Management of Psoriasis: Are There Any Biomarkers / Predictors of Treatment Efficacy and Adverse Effects?

Mariko Seishima, M.D., Ph.D.

Department of Dermatology,
Gifu University Graduate School of Medicine, Japan

The ultimate goal of any psoriasis treatment is to achieve complete clearance of dermatological symptoms. A number of treatment options are available nowadays including topical and systemic therapies. We usually choose the optimal management of psoriatic patients from the viewpoints of dermatological severity, their comorbidity, their compliance with the treatment schedule, and sometimes the economic condition of the patient. However, unfortunately, some patients with psoriasis may not receive the optimal management that could clear up their skin symptoms and improve their quality of life. In addition, patients in pregnancy or in the lactation period, and pediatric patients are frequently left on less effective topical treatments, because dermatologists, and also patients, would like to avoid adverse effects by stronger systemic treatments.

Body surface area (BSA), the psoriasis area and severity index (PASI), and the dermatology life quality index (DLQI) are tools to score psoriasis, and are commonly used to evaluate the efficacy of various treatments. However, these are clinical indicators which show the status of psoriasis. We poorly understand how patients respond to the given drugs and cannot predict the patient response including efficacy and/or adverse effects. Recently, the cytokine networks in psoriatic patients have been proven to be involved in the pathogenesis of psoriasis through the therapeutic efficacy of the biological therapies blocking the cytokines. Therefore, monitoring biological markers, if any, may be useful for optimally choosing the initial and maintenance therapies, especially biolological therapies, in psoriatic patients. We may also be able to evaluate the usefulness in some serum immunological factors for these therapies. Ultimately, we are in search of biomarkers or predictors showing the clinical response to treatments available for psoriasis.

CURRICULUM VITAE

Shinichi Imafuku, M.D., Ph.D.
Department of Dermatology,
Fukuoka University,
Japan

Education:

1991	Kyushu University School of Medicine

Employment:

1991-1992	Resident, Kyushu University Hospital (Dermatology)
1992-1995	Research resident, Dermatology and Virology/Immunology Laboratories, Department of Pharmacology and Experimental Therapeutics, University of Maryland at Baltimore
1995-1996	Chief, Division of Dermatology, Shinkokura Hospital
1996-1999	Assistant professor, Dept. Dermatology, Kyushu University
1999-2003	Chief, Division of Dermatology, Hiroshima Red Cross and Atomic Bomb Survivor's Hospital
2003-2005	Assistant professor, Dept. of Dermatology, Kyushu University
2005-2007	Chief, Division of Dermatology, Kitakyshu Medical Center
2007-2009	Lecturer, Dept. Dermatology, Fukuoka University
2009-present	Associate professor, Department of Dermatology, Fukuoka University

SL-3

Treatment Options for Multifaceted Conditions of Psoriasis

Shinichi Imafuku, M.D., Ph.D.

Department of Dermatology,
Fukuoka University, Japan

Recently, psoriasis has been recognized as a multifaceted disease with systemic inflammation as well as skin symptoms. It is known that inflammation is present not only at skin or joints but also throughout the body including vessels. Historically, a higher proportion of patients with psoriasis have concurrent obesity, hypertension, and metabolic disorders such as dyslipidemia and diabetes mellitus, which suggests the relationship with metabolic syndrome and cardiovascular diseases. In 2011, Boehncke et al. presented a concept of "psoriatic march" which drew more attention to the risk for cardiovascular diseases in patients with psoriasis. In fact, studies have reported that the age of death is lower particularly in severe psoriasis patients compared to non-psoriasis patients, and the most common cause of death was cardiovascular diseases.

With the widespread use of biologics, the activity of inflammatory cytokines in psoriasis is now in the spotlight. Particularly, TNF-α has been observed to be involved in the above-mentioned various concurrent diseases and is considered to play a key role in causing systemic inflammation.

In this lecture, I would like to mention the usefulness of TNF-α inhibitors including adalimumab in the treatment of psoriasis and also describe my consideration of significance of control in systemic inflammation. We are now in an age of biologics, therefore, I would like to share the treatment strategy which focuses on the future of patients with psoriasis, including ongoing symptoms and decreased QOL.

CURRICULUM VITAE

Karsten Fogh, M.D., DMSc.
Department of Dermatology,
Aarhus University Hospital,
Aarhus, Denmark

Education:

University of Aarhus, Faculty of Medicine, January 1984: M.D.
Authorization as a Dermatologisk, February 1996 (National Board of Health, Denmark).

Thesis:

Defended at the University of Aarhus, Faculty of Medicine, 1990 (DMSci).

Appointments:

Associate professor, Department of Dermatology, Marselisborg Hospital, Aarhus, Denmark, January 1, 1997-present.
Senior resident, Department of Dermatology, Marselisborg Hospital, Aarhus, Denmark, August 1, 1994-December 31, 1996.
Resident, Department of Dermatology, Bispebjerg Hospital, Copenhagen, Denmark, February 1, 1994-July 31, 1994.
Resident, Department of Dermatology, Marselisborg Hospital, Aarhus, Denmark, August 1, 1992 January 31, 1994.
Post doctoral Research Fellow, University of Michigan Medical Center, Department of Dermatology, August 1, 1991-July 31,1992.
Resident, Department of Internal Medicine and Endocrinology, Aarhus County Hospital, Denmark, February 1, 1990-July 31, 1991.
Resident, Department of Dermatology, Marselisborg Hospital, Aarhus, Denmark, September 1, 1988-January 31, 1990.
Research Fellow, Department of Dermatology, Marselisborg Hospital, University of Aarhus, Denmark, January 1, 1985-August 31, 1988.
Resident, Department of Rheumatology, Orthopedic Hospital, Aarhus, Denmark, September 1-December 31, 1984.
Resident, Department of Infectious Diseases, Marselisborg Hospital, Aarhus, Denmark, June 1-August 31, 1984.
Resident, Department of Surgery, Viborg Hospital, Denmark, March 1-May 31, 1984.

Memberships:

Danish Dermatological Society, Member of the Board (Treassurer, 2000-2004)
The organisation of Young Dermatologists, Denmark (Past-President).
Danish Medical Association
The Danish Woundhealing Society

Other Activities:

1995-present: conduction of clinical trials in accordance with GCP.

SL-4

Perspective on Compliance to Topical Therapies and the Role of Topicals

Karsten Fogh, M.D., DMSc.

Department of Dermatology,
Aarhus University Hospital, Aarhus, Denmark

Topical treatment of psoriasis is still used as first line treatment in light to moderate psoriasis and can be used in combination with other anti-psoriatic treatment modalities (UV-treatment and systemics). Psoriasis negatively impacts both the physical and psychological aspects of quality of life in patients with psoriasis. Therefore, there is a need for focussing on these aspects together with focussing on efficacy and safety of new treatments for psoriasis. In addition, compliance and adherence to treatment are important aspects in the management of psoriasis, but these aspects are often neglected and often result in poor adherence to treatment. Nevertheless, in order to manage psoriasis at its optimum, it is of great importance to focus on these parameters. Clinical trials focus on efficacy and safety of treatment and recent years of clinical trials have also focussed on the impact of new treatments on quality of life by use of relevant tools together with cost effectiveness. However, attention should also focus on tools to improve compliance and adherence. These tools are weakly defined, but include patient support services, patient support groups and other activities that can increase patient awareness of these important aspects with respect to topical treatment of psoriasis.

EDUCATIONAL LECTURES

EL

The Assessment of Psoriasis Severity: PASI, BSA, DLQI

YOUN Sang-Woong

Department of Dermatology, Seoul National University College of Medicine, and Seoul National University Bundang Hospital

New drugs and therapies are proliferating in the clinical field of psoriasis. Lots of clinical studies for new psoriasis treatment modalities are being planned and performed to assess the efficacy. Psoriasis has not definite biomarkers for severity assessment as blood pressure in hypertension or blood sugar level in diabetes. Lots of severity assessment tools were developed and used for this purpose but almost all of them are subjective tools. There are so many problems in construct validity, content validity, internal consistency, intraobsever variation and acceptability/time required to perform analysis. PASI is one of the most commonly used assessment tool for psoriasis and sometimes considering as a gold standard assessment tool for psoriasis. It has limitations like lacks of sensitivity for mild to moderate disease with minimal area involvement, reduced reproducibility, does not take into account symptoms of socially specific area such as face, nails and genitalia. BSA is another commonly used assessment tool. When we perfom BSA assessment, the one “handprint” method is adopted. The area of patient’s palm with fingers represents 1% of BSA. We could measure the area with the multiples of “handprint”. BSA also has limitation that it could not reflect the least improvement after short term treatment. DLQI is now introduced in psoriasis assessment. Current psoriasis treatment guideline recommends patients subjective feelings of the disease as the goal of psoriasis treatment. DLQI is a best recommended standard to patients’ feelings before and after the treatment. In conclusion, psoriasis assessment tools have their limitations each, so we should use more than one assessment tools to comprehensive assessment.

FREE COMMUNICATIONS

FC-1

Renal Impairment Developed in a Patient Treated with Infliximab (remicade®)

KIM Dae-Hong, KIM Tae-Yoon

Department of Dermatology, College of Medicine, The Catholic University of Korea

TNF-α is a proinflammatory cytokine related to a lot of chronic inflammatory diseases. Infliximab which is a chimeric TNF-α monoclonal antibody, has been used widely in Crohn's disease, psoriasis, rheumatoid arthritis and ankylosing spondylitis. The common side effects of infliximab are headache, injection site reaction and diarrhea. Howerever, Infection, heart failure, hematologic disorders and renal complication are very rare. Herein, we report a case of 60-year-old Korean male who has presented multiple variable-sized scaly erythematous pustules and plaques on the whole body for 15 years. He had been treated with methotrexate and narrow band UVB in local clinics for several years. cyclosporine and NB-UVB started but failed to improve. We initiated infliximab therapy. We injected infliximab 8 times in 1 year. After treatment, symptoms was improved. A reduction in the PASI score showed over than 75% (from 36.2 to 8.2). However, routine laboratory findings presented abnormal renal function test (Cr 1.98). We stopped inflixamb therapy and a renal biopy was performed. Histopathologic findings demonstrate that he is under Ig A nephropathy, acute tubulointerstitial nephritis and acute tubular necrosis. In the literature, there are three papers reported for renal impairment caused by infliximab therapy. Clinicians need to consider infliximab as a potential cause of renal complication in patients to whom it is given. We report a case of infliximab induced-renal injury which we believe to be the first case presented in the Korean literature.

FC-2

A Case of Erythrodermic Psoriasis Treated Effectively and Safely with Adalimumab

HA Seung-Min, CHOI Seung-Hwan, KO Dong-Yeob, JEON Su-Young, SONG Ki-Hoon, KIM Ki-Ho

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Erythrodermic psoriasis is a severe and disabling variant of psoriasis which may develop de novo in other rheumatic disease including RA, ankylosing spondylitis, and IBD, or from the preceding plaque-type psoriasis, and its persistence is sometimes associated with bacterial infection or colonization. Patients with erythrodermic psoriasis could present high-output cardiac failure or impaired hepatorenal function and occasionally show a life-threatening course. Although conventional systemic treatments including acitretin, cyclosporin and methotrexate have shown efficacy in the patients with erythrodermic psoriasis, failure or intolerance is not so infrequently observed.

Recently, tumor necrosis factor (TNF)-α inhibitors together with anti-IL-12/23 p40 inhibitor are developed and effective and safe in treating the moderate to severe psoriasis in randomized clinical trials. But, the flare-up is observed infrequently by TNF-α inhibitors and another biologics, especially during the treatment of patients with a variety of types of psoriasis. TNF-α inhibitors such as etanercept, infliximab and adalimumab, are reported to be effective in the treatment of erythrodermic psoriasis in sporadic report and retrospective study.

A 46-year-old female patient presented with chronic plaque type psoriasis 24 years ago and erythrodermic lesions developed 11 years before the first visit. Despite the long term combination therapy of oral cyclosporine 2.5~3.0 mg/kg/day and systemic PUVA or NBUVB for 5.5 years, her skin problem showed wax and wane course. Treatment modality was switched into the subcutaneous injection of adalimumab on every other weekly basis, and her lesions are well responded without any adverse events or flares, as a rare example for successful treatment.

FC-3

A Case of Psoriasis Vulgaris Showing Delayed Loss of Efficacy after Prolonged Ustekinumab Treatment

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Ustekinumab is a fully human, monoclonal antibody that blocks the activity of p40, a protein subunit shared by interleukin (IL)-12 and IL-23, with high affinity and specificity. It was approved for the treatment of psoriasis based upon the results of two phase 3 clinical trials showing that about two-thirds of patients achieved a PASI 75 response after 12 weeks of treatment. Among the 19 patients treated with ustekinumab in Severance Hospital, 17 patients (89.5%) achieved a PASI 75 (Psoriasis Area and Severity Index) response after 16 weeks of treatment. However, two patients among them showed delayed loss of efficacy. Herein, we report a case of psoriasis vulgaris showing a clinical response to ustekinumab in its first 16 weeks but faltering in efficacy afterwards.

A 22-year-old man had suffered from severe large plaque type psoriasis vulgaris for 9 years. The patient had been treated with the first-line systemic therapy, but all of the treatment modalities were unsatisfactory. Initial PASI was 34.4. Ustekinumab was administered at dose of 45 mg at week 0, 4, and then every 12 weeks. After 16 weeks, PASI was dramatically reduced to 2.8 and reached PASI 90. However, the efficacy declined after that. PASI increased to 3.6 in week 28, 11.8 in week 40, 24.2 in week 52. Then, the dose of ustekinumab was increased to 90 mg at week 52 considering his body weight (105 kg). Nevertheless, there was no dramatic improvement, forcing discontinuation of ustekinumab at week 64.

Although further studies including serum drug concentration and anti-ustekinumab antibody are needed, we should consider for patients who showed a delayed loss of efficacy for the ustekinumab treatment.

Key words: psoriasis vulgaris, treatment, ustekinumab, loss of efficacy, anti-ustekinumab antibody

FC-4

Early Onset of Generalized Pustular Psoriasis Accompanying IL-36 Receptor Antagonist Gene Mutation in A 14-year-old Korean Male Patient

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Generalized pustular psoriasis (GPP) is a rare and yet the most aggressive form of psoriasis, characterized by episodic widespread eruptions of sterile pustules associated with marked systemic features. Recently, specific mutations in the I*L-36 receptor antagonist (IL36RN)* gene have been reported to be the causative genetic defects in both familial and sporadic cases of GPP. IL36RN encoded by the *IL36RN* gene is one of the members of IL-1 family and an antagonist of three cytokines: IL-36α, IL-36β and IL-36ɣ. These cytokines activate several pro-inflammatory signaling pathways, such as the nuclear factor-κB and mitogen-activated protein kinase pathways. A 14-year-old Korean male patient had continuously suffered from pruritic erythematous scaly patch with scattered pustules on perianal, inguinal and abdominal area for 4 years. He visited our dermatology clinic a year ago and had treatment under impression of intertrigo. The patient stopped the treatment and after 7 months, he visited the clinic again with the aggravated symptoms on his whole body. There were no familial history and other surgicomedical history. The skin biopsy was performed on the right flank and he was diagnosed with GPP. Since the patient showed severe skin symptoms despite his young age, we tried to identify mutations in *IL36RN* gene. As a result, point mutation c. 115+6T > C which causes skipping of exon 3, leading to a frameshift and immediate premature termination codon was found in intron 3 in *IL36RN* gene. Moreover, results of immunohistochemistry with an anti-IL-36α antibody in skin sections showed detection of the strong positive signals in keratinocytes adjacent to the pustule. After the treatment with cyclosporine, he was discharged with much improvement of skin lesion and received periodical follow-up treatment. We report a case of early onset GPP accompanying *IL36RN* gene mutation in a 14-year-old Korean male patient without a family history. A large-scale study will further enhance the involvement of the *IL36RN* gene in pathogenesis of Korean GPP patients and also disclose the genetic heterogeneity of the disease.

FC-5

A Case of Psoriasis Accompanied by Systemic Lupus Erythematosus

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Pathomechanism of systemic lupus erythematosus (SLE) and psoriasis is known to be different; Psoriasis is caused by systemic inflammatory reaction from Th1 cell activation, whereas Th2 cell-related abnormalities are the main pathogenic mechanism of SLE. Cases of generalized psoriasis caused by rituximab (anti-CD20monoclonal antibody) for SLE treatment, and cases of aggravation of SLE after anti-TNF biologics have been reported, making it reasonable that immunopathologic mechanisms of these two diseases may be opposite. However, we experienced a case of psoriasis accompanied by SLE.

A 32-year-old woman visited our department due to erythematous scaly macules and patches on the trunk, inguinal area and forehead. Past medical history included malar rash and arthralgia progressing one year ago starting from the left third finger, spreading to all fingers, wrists, followed by toes, ankles, knees, and hips. The serologic findings were as follows: anti-SSA/Ro Ab (+), anti-Smith Ab (+), and FANA (+), speckled pattern. According to clinical and serologic findings, she was diagnosed with SLE. For SLE, methotrexate 15 mg, hydroxychloroquine 400 mg, prednisolone 5 mg and NSAID were prescribed, and the pain seemed to abate. To evaluate skin lesions, biopsy was performed from the lesion on the forehead. Histopathologic findings were consistent with psoriasis. The skin lesions responded to topical vitamin D3 analogue and topical steroid. To evaluate arthritis, x-ray was taken. The findings of left hip, both middle fingers and right index finger favored psoriatic arthritis, indicating psoriasis preceded SLE.

Through this case, we would like to discuss the pathophysiologic mechanism that is related to both SLE and psoriasis (IL 17-mediated T cell immune response pathway) and propose possible mechanism by which SLE and psoriasis may be linked.

FC-6

Psoriasis in a Patient with Vogt-Koyanagi-Harada Syndrome

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The Vogt-Koyanagi-Harada syndrome (VKHS) is an idiopathic autoimmune disease characterized by nontraumatic uveitis, tinnitus, vertigo, headache, meningoencephalitis, and cutaneous abnormalities including poliosis, vitiligo, and alopecia. Although unifying mechanism has not yet been discovered, VKHS is believed to be an autoimmune process directed to melanin-containing cells.

A 43-year-old woman, who was diagnosed with VKHS 7 years ago and presented alopecia universalis and vitiligo as cutaneous manifestations of VKHS, visited our outpatient clinic. In this time, her visit was due to erythematous scaly patches on her whole body. Her skin lesions appeared 2~3 months ago, and she was treated with topical steroid at another local dermatology clinic. Even with topical steroid treatment, her skin lesions did not improve, thus, she was referred to our hospital for skin biopsy and management. She was admitted for systemic steroid therapy and further evaluation, and begun to treat with oral prednisolone in dose of 1 mg/kg. After systemic prednisolone, the erythema of her skin lesions was improved, but new lesions continued to appear. At 5th of hospital day, she was diagnosed with pustular psoriasis with pathological finding. After diagnosis of psoriasis, systemic steroid was tapered and cyclosporine was started in dose of 100 mg bid. With cyclosporine treatment, her skin lesions was dramatically improved, and she was discharged at 10th of hospital day without any complication. After discharge, she was kept to treat with cyclosporine for 4 months, and there was no recurrence or aggravation.

FC-7

Reccurance of Zumbusch Type Pustular Psoriasis after Recovering Impetigo Herpetiformis

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Generalized pustular psoriasis (GPP) is firstly described by von Zumbusch in 1910. GPP presents as sheeted, pinhead-sized, sterile, sub-corneal pustules over a wide area of the body. patients are often febrile and systemically ill. The GPP is as an acute, episodic, and potentially life-threatening form of psoriasis. After the first description of impetigo herpetiformis (IH) in 1872 by von Hebra, IH was characterized by a disseminated spread of sterile pustules, associated with major general symptoms and an increased risk of abortion. IH usually resolves postpartum and can recur next pregnancy. There has been a controversy that IH is a variant of pustular psoriasis or a separate entity. We report here a case of Zumbusch type psoriasis after recovering impetigo herpetiformis, and notably the first GPP case after complete recovery of IH.

A 32-year-old female patient presented widespread erythematous patches and pustules with fever and chill. She was treated IH at 3rd trimester in her first pregnancy. Skin biopsy in lesion showed pustules in the epidermis and perivascular infiltration of PMNs in the upper dermis. Base on the above, we diagnosed Zumbusch type pustular psoriasis and thought to share a common etiology with each other disease.

FC-8

Erythrodermic Psoriasis with Psoriatic Arthritis and Various Comorbidities

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The traditional belief about psoriasis is that it is just a cutaneous disease without systemic involvements. This concept is challenged in recent few years when more and more systemic comorbidities had been reported. The possible comorbidities of psoriasis such as cardiovascular disease (hypertension, artherosclerosis, cerebrovascular disease), metabolic syndrome (dyslipidemia, obesity, adult diabete mellitus), non-alcoholic fatty liver and other various systemic disorders have been reported in literature. Severe variants of psoriasis, especially, such as the erythrodermic and generalized pustular type, may be associated with more serious comorbidities and mortality.

A 34-year-old male patient was diagnosed with psoriasis 15 years ago. The plaque type psoriasis skin lesion was changed to erythrodermic psoriasis 8 years ago. The patient had not been treated before visiting our psoriasis clinic. The generalized diffuse dusky scaly erythroderma is represented on the whole body and a round shaped skin ulceration is observed around the right lateral malleolus. He also was diagnosed and treated with psoriatic arthritis, hypertension, dyslipidemia, moderate fatty liver, hypoalbuminemia and obesity. The skin lesion improved markedly after treatment with systemic retinoid and topical agent for 6 months. Herein, we report an impressive case of erythrodermic psoriasis with psoriatic arthritis and various comorbidities.

FC-9

A Case of Subcorneal Pustular Dermatosis

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Subcorneal pustular dermatosis is a rare, chronic, idiopathic, recurrent pustular eruption first described in 1956 by Sneddon and Wilkinson. It is characterized by annular, superficial, sterile pustules typically involving the intertriginous areas, trunk and proximal limbs. Histopathologically, the hallmark of the disease is strictly subcorneal pustules filled with neutrophils, with only occasional eosinophils. The drug of choice is dapsone in a dose of 50 to 150 mg daily, but, systemic corticosteroids are less effective. A 66-year-old man presented with intermittently prickly, multiple, generalized, scaly erythematous patches surrounded by pustules on the whole body for 10 days. Histopathological examination revealed subcorneal pustules with numerous neutrophils and only a few eosinophils. He has been treated with dapsone for 4 years, but, the lesions has been waxing and waning. Systemic corticosteroids has been occasionally effective in generalized flare state. We herein report a rare case of subcorneal pustular dermatosis, which in responsive to topical or systemic corticosteroids

FC-10

A Case of Generalized Pustular Psoriasis with Chronic Renal Failure Successfully Treated with Granulocyte Monocyte Apheresis in Combination with Hemodialysis

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Generalized pustular psoriasis (GPP) normally occurs with fever and flushing, accompanied by the systemic formation of large numbers of sterile subcorneal pustules. It should be considered as a form of systemic inflammatory response syndrome (SIRS). In Japan, the Ministry of Health, Labour, and Welfare put GPP on the list of the rare intractable skin diseases.

Granulocyte monocyte apheresis (GMA) is an extracorporeal apheresis instrument that removes activated neutrophils and monocytes. GPP is characterized by neutrophil infiltration into the epidermis that causes Kogoj's spongiotic pustule. Thus, GMA is one of the useful therapies for GPP, and it was approved for the treatment of GPP on October, 2012 in Japan.

Herein, we report that a case of GPP with chronic renal failure (CRF) successfully treated with GMA in combination with hemodialysis (HD). A 54 year-old Japanese female visited the outpatient clinic of our department because of erythema with pustules on her trunk and extremities over the past four months. The skin symptoms did not respond to topical corticosteroid and phototherapy before she visited to our hospital. Histopathological examination showed an intraepidermal pustule filled with numerous neutrophils and spongiosis around the pustule. Together, these clinical and histopathological findings led to a diagnosis of GPP. She had CRF and had been treated with HD twice a week for approximately four years. During continuous HD twice a week, weekly GMA was started at Tokai University Hospital. The skin symptoms disappeared after five times of GMA. We suggest that GMA is an effective and safe therapy for GPP patients with CRF who are treated with HD.

FC-11

Effectiveness of Moduerate to Severe Psoriasis Therapy with Etanercept

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Background: Etanercept (Enbrel; Immunes, Thousand Oaks, CA, USA) is a fully humanized soluble tumor necrosis factor (TNF)-alpha receptor protein that competitively inhibits the interaction of TNF-alpha with cell-surface receptors and modulates the activity of other proinflammatory cytokines that are regulated by TNF-alpha. It was approved as monotherapy for psoriasis in the USA and introduced in Korea in 2004.

Objectives: To evaluate the efficacy and safety of etanercept administration by low-dose regimen in moderate-to-severe plaque psoriasis

Methods: We performed a retrospective analysis of 10 moderate-to-severe psoriasis patients who had been treated with etanercept at our hospital between January 2008 and August 2013. Patients had received subcutaneous injections 50 mg of etanercept weekly for 12 weeks. Patients were evaluated by clinical photographs, PASI scoring, adverse events weekly.

Results: PASI 75 was achieved in 10 patients (100%) and the mean number of injections before achieving a PASI 75 was 9.8. Patients whose initial PASI was 20 or more than 20 showed an earlier PASI 75 response (8.8 weeks) and a higher PASI 90 rate (40%), than with initial PASI less than 20 (10.8 weeks, 0%). Adverse events were observed in three patients (30%), but were not serious. After 12 weeks, 4 patients have continued to receive additional maintenance therapy and their PASI scores have been well controlled up to the present time.

Conclusion: Results in this study showed that low-dose etanercept therapy is effective for moderate-to-severe psoriasis patients, and it may be a valuable treatment option even for relatively severe psoriasis patients not responsive to conventional treatment.

FC-12

Adverse Events of Ustekinumab in the Treatment of Chronic Plaque Psoriasis

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Background : Ustekinumab is one of biologic drugs to treat moderate to severe plaque-type psoriasis and psoriatic arthritis, and it was approved in 2009. It is a human IgG1 monoclonal antibody regulating psoriatic inflammatory responses by binding with p40 subunit of interleukin-12/23.

Objectives : The purpose of this study is to evaluate safety of ustekinumab in the treatment of psoriasis

Methods : A retrospective chart review was conducted for the medical records of total 69 patients who were used ustekinumab for chronic plaque psoriasis from 2011 to present. All adverse events were counted and analyzed.

Results : Twenty-six out of 69 patients (38%) had an adverse event. Pruritus was the most common (7 patients) and upper respiratory infection (6 patients) and common cold (6 patients) were seconds. Some patients had other mild adverse events such as headache, cough, diarrhea and esophagitis, etc. Several adverse events co-occurred in the same patient. Severe adverse events such as pneumonia rarely occurred.

Conclusion : The efficacy and safety of ustekinumab have been continuously reported through the large studies named by PHEONIX, PEARL, ACCEPT, and Igarashi placebo-controlled study. Data in Seoul National University Bundang Hospital have several differences in aspects of incidence and types compared with their adverse events.

Keywords: Ustekinumab, adverse event, safety

FC-13

Clinical Study on Psoriasis Patients in NMC Psoriasis Clinic

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Psoriasis is a common chronic inflammatory skin disease whose prevalence and clinical feature vary among different populations worldwide. The prevalence rate of psoriasis in Korea shows increasing tendency compared to the past. The clinical study with many patients is important to clarify the epidermiological characteristics and clinical features of psoriasis. The questionnaire-based study was carried out for patients who have been enrolled in National Medical Center psoriasis clinic during 1 year. We surveyed epidermiologic data, clinical features including the extent of involvement and disease activity of psoriasis from 338 patients. The collected data were analyzed by statistical variables. The gender ratio of psoriasis patients was 1.1:1 (male 52.4%, female 45.4%). The peak age of onset in male was twenties, while it was teenage in female. Total 51.1% of patients developed psoriasis before 30 years of age. Family history of psoriasis was observed in 23.7% of patient. Mild to moderate extent of involvement was frequently observed in both male and female patients. Mild to moderate disease activity was also frequently presented without relation to gender and age. The most common morphological type was nummular type (57.6%), followed by large plaque (33.8%) and PPP (4.4%). This study was investigated with the second-largest number of patient in Korea, which also demonstrate epidermiological characteristics of psoriasis.

FC-14

Screening of Psoriatic Arthritis in Korean Psoriasis Patients Using PASE Questionnaire

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Background: Psoriatic arthritis (PsA) is a chronic seronegative oligoarthritis causing irreversible joint damage. Early recognition of PsA in patients with psoriasis is important to prevent physical disability and deformity. However, diagnosing PsA pose a distinct challenge for most dermatologists in the context of a busy clinic.

Objectives: The aim of this study was to validate Psoriatic Arthritis Screening Evaluation (PASE) questionnaire in detecting PsA in Korean patients with psoriasis.

Methods: A total 148 patients with a diagnosis of psoriasis, but not previously diagnosed with PsA were administered with PASE questionnaire prospectively. All patients underwent radiologic and laboratory examinations. In addition, they were clinically evaluated by a rheumatologist.

Results: Eighteen patients (12.1%) were diagnosed with PsA meeting the Classification Criteria for Psoriatic Arthritis (CASPAR) criteria. The sum of PASE scores in patients with PsA showed significant difference compared with those without PsA. Receiver operator curves showed an area under the curve of 0.82 (95% CI 0.72, 0.92) for the total score. A cut-off value $\geq$36 showed sensitivity of 77.8%, and specificity of 82.3% for the diagnosis of PsA.

Conclusion: The PASE questionnaire is simple and convenient screening tool for detecting PsA in Korean dermatology clinic. Dermatologists should consider PASE questionnaire for psoriasis patients attending clinics, as it proved robust for the early identification of PsA.

Key Word: Psoriatic arthritis, Psoriatic Arthritis Screening Evaluation, Screening

FC-15

Accuracy and Reliability of Subjective Answer about Age of Onset in Psoriasis

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Background : Psoriasis is one of the most common chronic skin diseases with an estimated prevalence of 1% in Korea. Among many clinical characteristics of psoriasis, age of onset has been a critical factor determining clinical progress and treatment plans. Early-onset psoriasis is known to follow severe and extensive courses, while late-onset one presents relatively mild and favorable courses. Therefore, it is clinically important to know the accurate onset age to determine therapeutic approaches and educate patients. However, acquiring reliable information from patients could be different because most clinicians depend on patients' subjective memories.

Objects : The purpose of this study was to investigate the accuracy and reliability of subjective answers about age of onset of psoriasis for patients visiting two medical institutions in different times.

Methods : The study was carried out in 116 patients diagnosed with psoriasis, who visited National Medical Center (NMC) between Sep 2012 and May 2013. Patients, who completed our questionnaire in their re-visits of NMC, also had filled up same ones when they first visited Seoul National University psoriasis clinic. Data were analyzed to assess accuracy and reliability of their memory.

Results : Data were firstly divided into four sub-groups according to time-periods between completion of two questionnaires, and accordance rate between two surveys were as follows; over 20 years; 61%, 10~20 years; 64%, 5~10 years; 82%, less than 5 years; 78%, and total average; 70%. Our data also demonstrated negative correlation between accordance rate of answer and time elapsed between completion of two questionnaires ($p < 0.05$). The average years of discrepancy among four groups are as follows; over 20 years; 4.64 (years), 10~20 years; 4.33 (years), 5-10 years; 4 (years), less than 5 years; 3.5 (years), total average; 4.2 (years). There was a negative correlation of gap for average years of discrepancy between four groups.

Conclusion : These results indicate that patient's memory about age of onset becomes inaccurate as time elapses. The individual difference about age of onset also shows a negative correlation to elapsed time after first questionnaire. In this point of view, dermatologists need to acquire correct information of onset age when psoriatic patients first visit clinics.

FC-16

Cross-sectional Study on the Correlation of Arterial Stiffness with Disease Severity in Psoriasis Patients: A Preliminary Study

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Background: Psoriasis is associated with an increased risk of atherosclerosis although the underlying mechanism remains unclear. Endothelial dysfunction is the critical early step in the process of atherogenesis commonly assessed by measuring arterial stiffness.

Objectives: We aimed to investigate an increase of arterial stiffness in patient with psoriasis and examine the relationship between arterial stiffness and other characteristics of the patients with psoriasis.

Methods: Twenty-six patients with psoriasis and 25 age-and sex-matched healthy controls were enrolled. Baseline demographics and laboratory data were recorded. The severity of the disease was evaluated by the Psoriasis Area and Severity Index (PASI). Arterial stiffness index as cardioankle vascular index (CAVI) and aortic augmentation index were measured. The relation of arterial stiffness index with clinical features of psoriasis and various laboratory values was assessed.

Results: The left CAVI significantly increased in the psoriatic patients than those in the healthy controls. But right CAVI shows no statistic significance. There was a positive correlation between arterial stiffness parameters and age, systolic/diastolic blood pressure and urea. The incidence of CVD risk factors as hypertension, diabetes, dyslipidemia were significantly high in patients with psoriasis.

Conclusion: We found that CAVI significantly increased in psoriasis patients. Arterial stiffness in patients with psoriasis is positively related with age, blood pressure and urea level. Further studies on larger groups of psoriatic patients are mandatory.

FC-17

A Comparison of Serum Inflammatory Cytokines and Cathelicidin (LL-37) according to Clinical Phenotype in Psoriasis Patients

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The level of serum inflammatory cytokines and cathelicidin (LL-37) is known to be elevated in patients with psoriasis compared to healthy controls. However, researches of level of serum inflammatory cytokines and LL-37 according to phenotypic heterogeneity in psoriasis have been scarcely reported. We demonstrate that interleukin (IL)-1 receptor antagonist and IL-17A were more increased in the eruptive inflammatory state when compared with the chronic stable state in the previous study. We aimed to clarify difference of the circulating Th1, Th17 cytokines and LL-37 between guttate psoriasis and plaque psoriasis and the correlation between disease severity [Psoriasis Area and Severity Index (PASI)] and serum level of inflammatory cytokines. A total of 74 patients with psoriasis (32 guttate psoriasis, 42 plaque psoriasis) were evaluated and serum samples were obtained. Multiple cytokine assay was used to measure Th1 and Th17 derived cytokines. Data were analyzed using the SPSS 17.0 for Windows program (SPSS, Chicago, IL, U.S.A). We observed no difference of the level of serum inflammatory cytokines and LL-37 according to clinical phenotype in patients with psoriasis. PASI is significantly correlated with serum cytokine level in patients with plaque psoriasis but not in patients with guttate psoriasis. There is no difference of the level of serum inflammatory cytokine and LL-37 according to clinical phenotype. Clinical severity was correlated with serum inflammatory cytokines but not LL-37.

FC-18

DNA Methylation Analysis of CD4+ T cells in Patients with Psoriasis

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Psoriasis is a chronic inflammatory skin disease that is characterized by aberrant cross-talk between keratinocytes and immune cells such as CD4+ T cells, resulting in keratinocyte hyperproliferation in the epidermis. DNA methylation, one of several epigenetic mechanism, plays an important role in gene expression without changing the DNA sequence. Several studies have suggested the involvement of epigenetic regulation in skin lesions from patients with psoriasis. In this study, we investigated the genome-wide DNA methylation status of CD4+ T cells in patients with psoriasis compared with healthy subjects using methylated DNA immunoprecipitation sequencing (MeDIP-Seq). The results of MeDIP-seq showed that the global methylation values of CD4+ T cells are higher in patients with psoriasis than in healthy controls, particularly in the promoter regions. Among the most hypermethylated genes in the promoter regions, we selected the genes, phosphatidic acid phosphatase type 2 domain containing 3 (PPAPDC3), DelaN p73 (TP73), cation channel, sperm associated 2 (CATSPER2), and fibronectin type III and ankyrin repeat domains 1 (FANK1) whose expression is significantly reduced in the CD4+ T cells of psoriasis patients. Studies using the methylation inhibitor 5-azacytidine *in vitro* methylation assays have shown that the differential expression levels were associated with the methylation status of each gene. Bisulfite sequencing of the transcription start region of PPAPDC3 showed hypermethylation in the CD4+ T cells of psoriasis patients. These results suggested that the methylation status, which is identified by MeDIP-Seq of the genes, were correlated with the mRNA expression level of the genes. Collectively, the DNA methylation status in CD4+ T cells might be associated with the pathogenesis of psoriasis.

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