19th Annual Meeting of The Korean Hair Research Society

2023년 제19차
대한모발학회 학술대회

Getting beyond the limits of alopecia treatments and deep dive into hair biology

일시: **2023. 5. 28** (일) 08:40~17:30
장소: The K Hotel, Seoul

KHRS The Korean Hair Research Society 대한모발학회

Welcome Message

안녕하십니까?

다채로운 꽃들이 만개하고 아카시아 향이 기분 좋은 5월입니다. 지난 4년간 이어져온 코로나-19가 마무리되어 가는 듯하고 마스크도 벗을 수 있어 조금씩 일상을 되찾아가는 듯합니다. 긴 시간 어려운 여건 속에서도 진료와 연구에 힘쓰시는 선생님들께 존경을 담아 인사드립니다.

이번 제19차 대한모발학회 학술대회는 모발학의 기초와 다양한 임상분야를 아우르는 내용으로 준비하였습니다. 특히 지난 몇 년간 온라인으로 해외연자 특강이 진행되고 현장 참석에 제한이 있었는데, 이번 학술대회는 오프라인으로만 진행되며 많은 해외연자들이 직접 참석하여 다시 활발한 학술대회의 장이 열릴 것으로 기대됩니다. 미국 캘리포니아대학의 Maksim Plikus 교수가 “Activating effects of the stem cell niche on hair growth”라는 주제로 모발 연구에 있어서 stem cell에 대한 강연을, 또한 너무나 저명하신 Amos Gilhar 교수께서 “Key open questions that have accompanied me in 45 years during alopecia areata research”라는 주제로 원형탈모 연구 전반에 대한 강연을 해 주십니다. 그리고 올해 원형탈모 치료제로 허가를 받은 baricitinib에 대한 내용으로 Jerry Shapiro 교수의 강의도 준비되어, 원형탈모 치료에 대한 뜨거운 토론과 배움의 시간이 될 것 같습니다. 또한 몇 해 전부터 시작된 우리나라와 일본 모발학회 교류의 일환으로 일본 연자 두분께서 참석하시어 의미 있는 강의를 해 주실 예정입니다.

이번 학술대회에서는 지난 학술대회 시 현장 참석의 제한으로 인하여 구성되지 못한 자유연제 발표 시간이 있습니다. 자유 연제 구연과 포스터를 통하여 지난 한 해 동안 회원 여러분들의 진료 경험과 연구결과를 발표하시어 많은 의견과 정보를 교류하시기를 바랍니다.

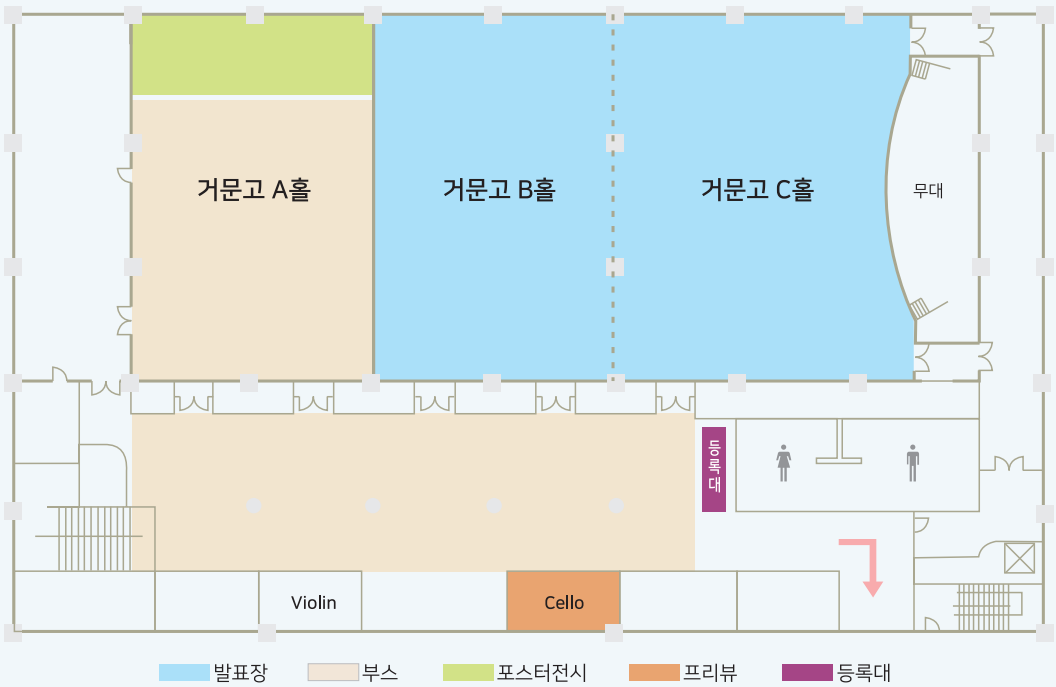
끝으로 이번 학술대회를 준비하는데 많은 수고를 한 대한모발학회 학술이사/간사를 포함한 상임이사진과 언제나 응원하여 주시는 회원 여러분들께 감사드립니다. 또한 바쁘신 와중에 참여해주시는 연자와 좌장 선생님들께 깊은 감사의 인사를 드립니다.

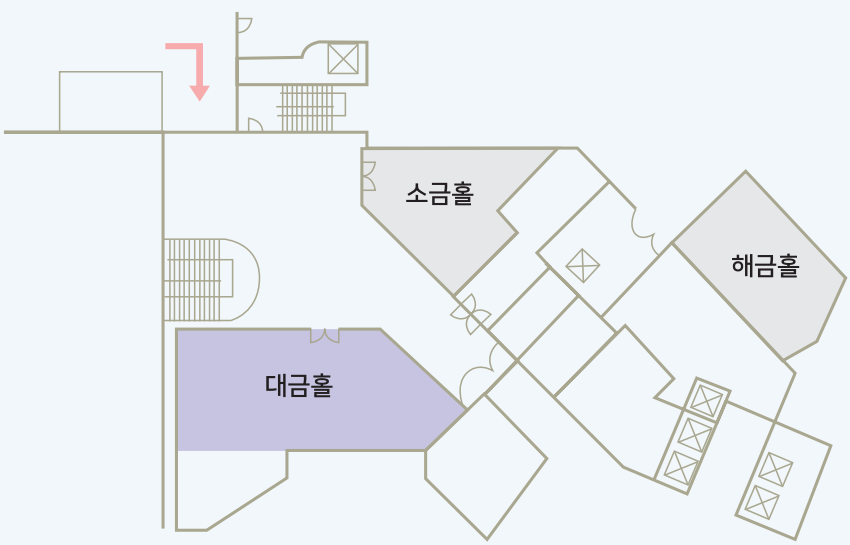
2023년 5월

대한모발학회 회장 **김 문 범**

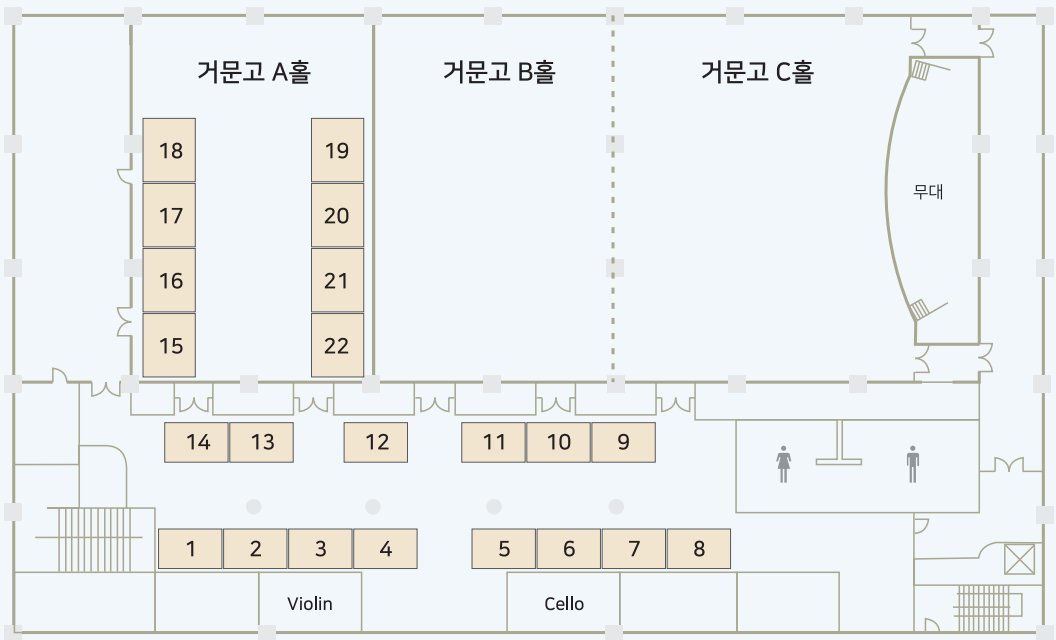
Floor Map

학회장 안내도 (3층)





부스 전시 안내 (3층)



참여부스

1. 한국얀센
2. 한국얀센
3. 한국릴리
4. 한국릴리
5. JNJ로게인
6. JNJ로게인
7. GSK
8. GSK
9. 한국오가논
10. 한국오가논
11. 종근당
12. 한국노바티스
13. 보령제약
14. 보령제약
15. 사노피-아벤티스
16. 에스트라
17. 한국애브비
18. JW신약
19. 대웅제약
20. 동구바이오제약
21. 네오팜
22. 동아ST

Program at a Glance

시간	프로그램 (거문고홀)
08:30	
09:00	Registration
	Opening Ceremony & Welcome Address
09:30	Session 1. Free Communication (09:10~10:40)
10:30	
	Coffee break
11:00	Session 2. Hair Biology (10:55~12:00)
12:00	
12:30	Luncheon Symposium / KHRS Board Meeting (12:00~13:20)
13:00	
13:30	Session 3. Alopecia Areata (13:20~15:05)
14:30	
15:00	Coffee break
15:30	Session 4. Androgenetic Alopecia (15:20~16:20)
16:00	
16:30	Session 5. Amorepacific Symposium: Hair Loss in Female and Cosmetic Modalities (16:20~17:10)
17:00	
17:30	2023 대한모발학회 연구비 수여, 우수연제 시상, Closing remarks, Group photo
18:00	

19th Annual Meeting of The Korean Hair Research Society

제19차 대한모발학회 학술대회

프 로 그 램

Topic: Getting beyond the limits of alopecia treatments and deep dive into hair biology

Time	Description	Speaker
08:40~09:00	**Registration**	
09:00~09:10	**Opening Ceremony**	Bark-Lynn Lew, Academic Director
	Welcome Address	Moon-Bum Kim, President

Session 1. Free Communication

Chairs: Yang-Won Lee (Konkuk univ.), Sang-Seok Kim (Hallym univ.)

O-01 Activation of mitochondrial aldehyde dehydrogenase 2 promotes hair growth in human hair follicles ····· 18

Seunghee Lee[1,2,3,4], Jungyoon Ohn[1,2,3], Bo Mi Kang[1,2,3], Sungjoo Tommy Hwang[5], Ohsang Kwon[1,2,3,4,*]

[1]Department of Dermatology, Seoul National University College of Medicine, Seoul, Korea, [2]Laboratory of Cutaneous Aging and Hair Research, Biomedical Research Institute, Seoul National University Hospital, Seoul, Korea, [3]Institute of Human-Environment Interface Biology, Medical Research Center, Seoul National University, Seoul, Korea, [4]Department of Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea, [5]Dr. Hwang's Hair-Hair Clinic, Seoul, Korea

O-02 The role of inflammasome in alopecia areata ····· 19

Da-Hyun Kang, Ji-Hoon Lim, Hae-Na Moon, Soon-Hyo Kwon, Bark-Lynn Lew*

Department of Dermatology, Kyung Hee University Hospital at Gang-dong, Kyung Hee University School of Medicine, Seoul, Korea

O-03 Oral and scalp microbiomes in alopecia areata ····· 20

So-Yeon Kim, Tae-Jong Kang, Kyung-Hwa Nam, Seok-Kweon Yun, Han-Uk Kim, Jin Park*

Department of Dermatology, School of Medicine, Jeonbuk National University, Jeonju, Korea

10:40~10:55 Coffee break

Session 2. Hair Biology

Chairs: Ohsang Kwon (Seoul national univ.), Chang Hun Huh (Seoul national univ.)

10:55~11:40 Activating effects of the stem cell niche on hair growth
Maksim Plikus (University of California) / 28

11:40~12:00 Trichoimmunology-lesson from hair diseases
Reiko Kageyama (Hamamatsu univ.) / 31

Luncheon Symposium / KHRS Board Meeting

Chair: Soo-Hong Seo (Korea univ.)

12:00~12:15 Effect and safety of finasteride based on long-term clinical data
Hyunsun Park (Seoul national univ.) / 34

12:15~12:30 Role of 5% topical minoxidil in patterned hair loss
Jee Woong Choi (Ajou univ.) / 36

Session 3. Alopecia Areata

Chairs: Won-Soo Lee (Yonsei wonju univ.), Gwang Seong Choi (Inha univ.)

13:20~14:05 Key open questions that have accompanied me in 45 years during alopecia areata research
Amos Gilhar (Technion-Israel institute of technology) / 40

14:05~14:35 Baricitinib: An evolution in the treatment of alopecia areata
Jerry Shapiro (NYU Grossman School of Medicine) / 43

14:35~15:05 Potential of JAK inhibitors in the pathogenesis of alopecia areata
Taisuke ito (Hamamatsu univ.) / 46

15:05~15:20 Coffee break

Session 4. Androgenetic Alopecia

Chairs: Hoon Kang (Catholic univ.), Moon-Bum Kim (Pusan national univ.)

15:20~15:40 Update on the pathomechanism in androgenetic alopecia
Jung Eun Kim (Catholic univ.) / 50

15:40~16:00 Characteristics in pediatric androgenetic alopecia:
What's the different from adult androgenetic alopecia?
Hyun-Tae Shin (Inha univ.) / 52

16:00~16:20 Update on the treatment of androgenetic alopecia and developing therapies
Chonghyun Won (Ulsan univ.) / 55

Session 5. Amorepacific Symposium: Hair Loss in Female and Cosmetic Modalities

Chairs: Dong-Youn Lee (Sungkyunkwan univ.), Won-Seok Park (Amorepacific R&I center)

16:20~16:50 Review of the biomarkers and treatment for female pattern hair loss
Byung Cheol Park (Dankuk univ.) / 58

16:50~17:10 Review of studies on female pattern hair loss in hair cosmetic product
Su Na Kim (Amorepacific R&I center) / 61

17:10~17:15 **2023 대한모발학회 연구비 수여**
17:15~17:20 **우수연제 시상**
17:20~17:30 **Closing remark, Group photo**

Posters

Seoul National University College of Medicine, Seoul, Korea, [5]Department of Dermatology, Konkuk University School of Medicine, Seoul, Korea, [6]Department of Dermatology, Chung-Ang University College of Medicine, Seoul, Korea, [7]Department of Dermatology, Chungnam National University School of Medicine, Daejeon, Korea, [8]Department of Dermatology, Jeonbuk National University Medical School, Jeonju, Korea, [9]Department of Dermatology, Pusan National University School of Medicine, Yangsan, Korea, [10]Department of Dermatology, Yonsei University College of Medicine, Seoul, Korea, [11]Department of Dermatology, Kangdong Sacred Heart Hospital, Hallym University College of Medicine, Seoul, Korea, [12]Department of Dermatology, Dankook University College of Medicine, Cheonan, Korea, [13]Department of Dermatology, Soonchunhyang University Bucheon Hospital, Soonchunhyang University College of Medicine, Bucheon, Korea, [14]Department of Dermatology, Inha University School of Medicine, Incheon, Korea, [15]Department of Dermatology, Seoul National University Bundang Hospital, Seongnam, Korea, [16]Department of Dermatology, School of Medicine, Kyungpook National University, Daegu, Korea, [17]Department of Dermatology, Korea University College of Medicine, Seoul, Korea, [18]Department of Dermatology, Korea University Guro Hospital, Seoul, Korea, [19]Department of Dermatology, SMG-SNU Boramae Medical Center, Seoul, Korea, [20]Department of Dermatology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea, [21]Department of Dermatology, Chosun University College of Medicine, Gwangju, Korea, [22]Department of Dermatology, Hanyang University Medical Center, Myongji Hospital, Goyang, Korea, [23]Department of Dermatology, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea, [24]Department of Dermatology, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea, Suwon, Korea, [25]Department of Dermatology, Uijeongbu St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Uijeongbu, Korea, [26]Department of Dermatology, Incheon St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Incheon, Korea, [27]Department of Dermatology, Busan Paik Hospital, College of Medicine, Inje University, Busan, Korea

Session 1

Free Communication

Chairs: Yang-Won Lee (Konkuk univ.)
Sang-Seok Kim (Hallym univ.)

Session 1. Free Communication

O-01

Activation of mitochondrial aldehyde dehydrogenase 2 promotes hair growth in human hair follicles

Seunghee Lee[1,2,3,4], Jungyoon Ohn[1,2,3], Bo Mi Kang[1,2,3], Sungjoo Tommy Hwang[5], Ohsang Kwon[1,2,3,4,*]

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[2]Laboratory of Cutaneous Aging and Hair Research, Biomedical Research Institute, Seoul National University Hospital, Seoul, Korea
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[4]Department of Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea
[5]Dr. Hwang's Hair-Hair Clinic, Seoul, Korea

Hair loss is a prevalent condition influenced by multiple factors, including genetics, hormones, and environmental factors. Mitochondrial dysfunction-induced oxidative stress has been reported as a significant contributor to hair loss, resulting from an imbalance between the production of reactive oxygen species (ROS) and cellular antioxidant defense. ROS accumulation causes damage to cellular components, including DNA, proteins, and lipids. Moreover, a previous study reported that oxidative stress suppresses hair growth by downregulating β-catenin, leading to hair follicle miniaturization and hair loss.

In this study, we investigated the impact of activating mitochondrial aldehyde dehydrogenase 2 (ALDH2) on hair follicles (HFs) to promote hair growth. ALDH2 is an enzyme that reduces oxidative stress by targeting cytotoxic aldehydes, including 4-hydroxynonenal (4-HNE) and malondialdehyde (MDA). Through a series of *in vitro*, *ex vivo*, and *in vivo* experiments, our findings demonstrate that ALDH2 activation promotes hair growth by mitigating ROS levels and increasing the clearance of aldehyde adducts in outer root sheath cells. Furthermore, we found that ALDH2 activation upregulated Akt/GSK 3β/β-catenin signaling, which plays a crucial role in hair growth.

Overall, our results suggest that ALDH2 activation on HFs could be a promising therapeutic strategy for promoting hair growth. This study provides novel insights into the impact of ALDH2 modulation as a viable approach for promoting hair growth, potentially leading to the development of new treatment options for hair loss.

O-02

The role of inflammasome in alopecia areata

Da-Hyun Kang, Ji-Hoon Lim, Hae-Na Moon, Soon-Hyo Kwon, Bark-Lynn Lew*

Department of Dermatology, Kyung Hee University Hospital at Gang-dong,
Kyung Hee University School of Medicine, Seoul, Korea

Background: The inflammasome, protein complex plays an important role in auto-inflammatory diseases. It activates several cytokines in response to pathogens or endogenous stress, and induces auto-inflammatory disease by causing inflammatory cell death. Recently, NOD-like receptor family pyrin domain containing 3 (NLRP3) inflammasome has been linked to psoriasis, vitiligo, lupus, and alopecia areata (AA) in the dermatologic field.

Objective: This study performed to elucidate the relationship between inflammasome and AA development and the correlation between inflammasome expression and the clinical features of AA patients.

Methods: A total of 144 patients with AA and 22 healthy controls were included in the study. Scalp skin and serum samples were obtained from the participants. We measured NLRP3-related molecules by performing quantitative polymerase chain reaction in both groups. Serum cytokines and chemokines associated with NLRP3 inflammasome were measured using enzyme-linked immunosorbent assays. Additionally, we measured the expression of NLRP3 and caspase-1 in outer root sheath by performing immunostaining on the samples. The correlation between experimental findings and clinical features was studied.

Results: Lesional IL-1β was significantly increased in patients with AA at any stage compared to controls. In the progressive stage, lesional CXCL10 was significantly increased compared to control levels and levels at other stages. Serum IFN-γ levels were significantly increased in the progressive stage of AA compared with controls. NLRP3 and caspase-1 showed strong positivity in the outer root sheath in the initial and progressive stages of AA compared to the recovery stage of AA in immunostaining. There were no NLRP3-associated molecules that significantly related to prognosis.

Conclusion: Strong staining of NLRP3 and caspase-1 in the initial and progressive stages suggests that the inflammasome is associated with the development of AA. The increased levels of lesional IL-1β and serum IFN-γ support this correlation. Moreover, the NLRP3-related chemokine, CXCL10 is closely associated with disease progression.

O-03

Oral and scalp microbiomes in alopecia areata

So-Yeon Kim, Tae-Jong Kang, Kyung-Hwa Nam,
Seok-Kweon Yun, Han-Uk Kim, Jin Park*

Department of Dermatology, School of Medicine, Jeonbuk National University, Jeonju, Korea

Background: Alopecia areata (AA) is a T-cell-mediated autoimmune disorder with unknown pathogenesis. Microbial dysbiosis has been associated with systemic and cutaneous immune-inflammatory skin conditions. Till now, a few microbiome studies of AA mainly focused on the gut bacterial community have been reported.

Objective: To characterize the oral and scalp microbiome of AA in comparison with those of healthy controls (HC).

Methods: We conducted a cross-sectional pilot study from oral and scalp swab samples of 19 AA patients and 21 HC. The oral and scalp bacterial communities from 4 sites (gingiva, buccal mucosa, vertex, occiput) were analyzed by 16S rRNA (V1-3) sequencing with DADA2 pipeline.

Results: The α-diversity of the oral microbiome of AA was significantly higher compared with HC ($p=0.011$). The overall oral bacterial community was distinct from the HC ($p<0.001$), demonstrating less *Streptococcus* and higher *Fusobacterium* abundances. Interestingly, the relative abundance of *Porphyromonas gingivalis*, a red complex bacterium, was significantly higher in AA ($p \leq 0.05$). For the scalp bacterial microbiome, the affected and unaffected scalp of AA patients showed a significant difference in microbial α-diversity and β-diversity compared with HC ($p<0.005$). AA scalp had lesser *Cutibacterium* and higher genera of Firmicutes (*Staphylococcus* and *Granulicatella*) abundances. In addition, the presence of *Hemophilus, Leptotrichia, Neisseria*, and *Corynebacterium* was enriched in the AA scalp (LDA score >3).

Conclusion: Oral and scalp bacterial microbiome of AA was clearly distinct from that of HC. The bacterial shifts, especially in the oral microbiome, may potentiate immune dysregulation of hair follicles and AA development. Further investigation is warranted to validate these findings for the diagnostic and therapeutic target.

O-04

Autoimmune, inflammatory, atopic, thyroid, and psychiatric outcomes of offspring born to mothers with alopecia areata

Ju Yeong Lee[1], Hyun Jeong Ju[2], Ju Hee Han[3],
Ji Hae Lee[2], Jung Min Bae[2], Won-Soo Lee[1], Solam Lee[1*]

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[2]Department of Dermatology, St Vincent's Hospital, College of Medicine,
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[3]Department of Dermatology, Seoul St Mary's Hospital College of Medicine,
The Catholic University of Korea, Seoul, Korea

Background: The long-term outcomes for offspring born to mothers diagnosed with alopecia areata (AA) is lacking.

Objective: To investigate the risks for autoimmune, inflammatory, atopic, thyroid, and psychiatric outcomes of offspring born to mothers with AA.

Methods: This retrospective population-based birth cohort study used the linked birth registration database with the Nationwide Health Insurance Service database of Korea. All newborns born to mothers with ≥3 visits with *International Classification of Diseases, 10th Revision* code of L63 and 1:10 birth year, sex, insurance, income, and location of residence matched control offspring born to mothers without AA during the years from 2003 to 2015. The occurrence and multivariable Cox proportional hazard analyses of the following diseases and were measured in newborns from birth to December 31, 2020.

Results: In total, 67,364 offspring born to 46,363 mothers with AA and 673,640 controls born to 454,085 unaffected mothers were analyzed. The risk of AA (adjusted hazard ratio [aHR], 2.08; 95% CI, 1.88–2.30), alopecia totalis/universalis (AT/AU) (aHR, 1.57; 95% CI, 1.18–2.08), vitiligo (aHR, 1.47; 95% CI, 1.32–1.63), atopic disorders (aHR, 1.07; 95% CI, 1.06–1.09), hypothyroidism (aHR, 1.14; 95% CI 1.03–1.25), and psychiatric disorders (aHR, 1.15; 95% CI, 1.11–1.20) was significantly increased in offspring born to mothers with AA. Among them, 5,088 born to mothers with AT/AU were at much greater risk for the development of AT/AU (aHR, 2.98; 95% CI, 1.48–6.00) and psychiatric disorders (aHR, 1.27; 95% CI, 1.12–1.44).

Conclusion: Maternal AA was associated with the development of autoimmune/inflammatory, atopic, thyroid, and psychiatric disorders in their offspring. Clinicians and parents need to be aware of the potential for these comorbidities to occur.

O-05

Efficacy and predictive factors of systemic corticosteroid in alopecia areata: Reappraisal of oral methylprednisolone tapering treatment

Hee Jeong Han, Han Seul Kim, Jin Cheol Kim, Jee Woong Choi*

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

Background: Systemic steroid can induce hair regrowth in the treatment of alopecia areata (AA). Short-term taper of oral steroids is widely used, however little is known about prognostic factors associated with treatment response.

Objective: We aimed to investigate efficacy and predictive factors of eight-week tapering methylprednisolone treatment (ETMT) for AA patients.

Methods: A total of 136 AA patients who received ETMT were retrospectively reviewed. Data about demographics, laboratory results, response to treatment and recurrence were collected.

Results: Three-fourths of patients (N=102) showed good response (GR, ≥ 50% improvement from baseline severity). In univariate analysis, young age (<15 years), nail involvement, and extensive alopecia involving 50% or more were poor prognostic factors of response to ETMT. However, nail involvement lost significance in multivariate model. Among the adverse events, acne was most frequently seen (14.7%), followed by gastrointestinal side effects, moon face and weight gain. Among the good responders, 28.4% of the patients reported to relapse in 5.48 months on average after cessation of ETMT. In univariate analysis, low vitamin D level was the only significant factor for predicting the relapse of AA.

Conclusion: Our study suggests that young age and extensive alopecia are predictive factors of poor response to ETMT. Vitamin D level might be helpful for predicting relapse.

O-06

Analysis of effectiveness and patient satisfaction of contact immunotherapy in South Korea: A multicenter questionnaire study

Kyungmin Kim, Young Lee*

Department of Dermatology, School of Medicine,
Chungnam National University, Daejeon, Korea

Background: Alopecia areata (AA) is an autoimmune skin disease in which immune cells attack hair follicles, leading to hair loss. Contact immunotherapy using Diphenylcyclopropenone (DPCP) is a recommended treatment for severe AA, but information on its therapeutic response in South Korea is limited.

Objective: This study aimed to confirm the therapeutic response of DPCP immunotherapy in AA, analyze the factors influencing its outcome and patients' satisfaction, and standardize the DPCP treatment protocol for better outcomes.

Methods: A multicenter questionnaire study was conducted in 30 hospitals in South Korea, involving a patient survey, retrospective medical record analysis, and statistical analysis using IBM SPSS version 24.0., with a significance level of $p<0.05$.

Results: The study included 412 patients with a mean age of 36.4 years. 27% of the cases were diagnosed as AA in children. Longer treatment duration and intervals between treatments were associated with better treatment response, while atopy and thyroid disorders negatively correlated with treatment response. Treatment response was higher when DPCP treated to the entire scalp, including subclinical lesions. There was no correlation between treatment response and other factors such as the age of onset, gender, family history of AA, nail changes, duration of AA, duration between disease and DPCP onset, or side effects. Patient satisfaction was associated with treatment duration, interval, and clinical phenotype, with patients with alopecia areata multiplex reporting the highest satisfaction and patients with alopecia areata ophiasis reporting the lowest satisfaction.

Conclusion: DPCP immunotherapy is an effective treatment for AA, and the study provided information on factors influencing therapeutic outcomes and patients' satisfaction. We hope to standardize the DPCP treatment protocol for AA patients with these findings, resulting in better treatment outcomes and higher patient satisfaction.

O-07

Endocrine and metabolic comorbidities in patients with primary cicatricial alopecia: A nationwide population-based study

Da-Ae Yu[1,6], Seong Rae Kim[2,6], Soo Ick Cho[3], Ohsang Kwon[2,4,5*]

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[5]Institute of Human-Environment Interface Biology, Seoul National University, Seoul, Korea
[6]These authors contributed equally to this work.

Background: Primary cicatricial alopecia (PCA) is a rare, scarring, hair loss disorder. Due to its low incidence, little is known about endocrine and metabolic comorbidities in patients with PCA.
Objective: To investigate the association between PCA and endocrine and metabolic disorders.
Methods: This nationwide, population-based, cross-sectional study included patients diagnosed with PCA or non-cicatricial alopecia (NCA) and normal individuals without history of alopecia registered in the Korean National Health Insurance Service database between January 1, 2011, and December 31, 2020. Patients with PCA were age- and sex-matched with patients with NCA and normal controls in a ratio of 1:1:4. The odds ratios of endocrine and metabolic comorbidities in patients with PCA and its subtypes, patients with NCA, and normal controls were compared using multivariate logistic regression models.
Results: A total of 3,021,483 individuals (mean age [SD], 38.7 [15.0] years; 1,607,380 [53.2%] men), including 11,956 patients with PCA, 601,852 patients with NCA, and 2,407,675 normal participants, were identified. Patients with PCA had an increased risk for dyslipidemia (adjusted odds ratio [aOR], 1.14 [95% CI: 1.06–1.24]), diabetes (aOR, 1.38 [95% CI: 1.24–1.53]), and hypertension (aOR, 1.10 [95% CI: 1.02–1.19]) compared to matched patients with NCA. Regarding PCA subtypes, lichen planopilaris/frontal fibrosing alopecia was positively associated with hypothyroidism (aOR, 2.03 [95% CI: 1.44–2.86]) compared to NCA. Folliculitis decalvans and dissecting cellulitis were positively associated with dyslipidemia (aOR, 1.16 [95% CI: 1.05–1.28]; aOR, 1.16 [95% CI: 1.04–1.29]), diabetes (aOR, 1.38 [95% CI: 1.20–1.58]; aOR, 1.52 [95% CI: 1.32–1.74]), and hypertension (aOR, 1.10 [95% CI: 1.00–1.20]; aOR, 1.14 [95% CI: 1.02–1.27]). Similar trends were observed when each PCA subgroup was compared with the normal control group.
Conclusion: Patients with PCA are more likely to have endocrine and metabolic comorbidities than patients without PCA. Further research on these comorbidities may improve the understanding of PCA.

O-08

A retrospective study of hair loss patients after being infected with COVID-19 or the COVID-19 vaccination

Hyun Chul Chung, Ye ji Kim, Eun Ji Chun, Chul Woo Kim, Sang Seok Kim*

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Background: COVID-19 and its vaccination have been associated with various types of alopecia, including androgenetic alopecia (AGA), alopecia areata (AA), telogen effluvium (TE), and pressure-induced alopecia (PA). The mechanisms underlying these associations remain unclear, but are thought to be multifactorial, with hair loss possibly related to virus-induced or delayed immunologic responses to infection.

Objective: This study aimed to analyze the clinical differences between patients who developed hair loss after COVID-19 or its vaccination and those with hair loss not related to COVID-19 in Korea.

Methods: A retrospective review of medical records of 1,554 patients diagnosed with alopecia from June 2021 to May 2022 in three Korean hospitals was conducted. Patients were divided into a study group (n=54) with hair loss after COVID-19 or its vaccination and a control group (n=1500) with hair loss unrelated to COVID-19 or its vaccination. Clinical diagnosis, laboratory evaluation, and comorbidities were analyzed in both groups.

Results: The study group had a higher prevalence of alopecia areata and telogen effluvium compared to the control group. CK elevation and DHEA-S deficiency were significantly more prevalent in the study group, as were comorbidities such as dyslipidemia and diabetes mellitus. Vaccine-induced cases were similarly prominent in AA, AGA, and TE groups. The mean duration to the onset of alopecia symptoms after being vaccinated or infected with COVID-19 varied between the groups but was not statistically significant.

Conclusion: This study suggests a possible association between COVID-19 or its vaccination and the development of certain types of alopecia, particularly alopecia areata and telogen effluvium. Specific laboratory findings and comorbidities were more prevalent in patients who developed hair loss after COVID-19 or its vaccination. Further research is needed to explore the underlying mechanisms and potential therapeutic strategies for these patients.

O-09

Korean diagnostic guidelines to define severity classification for alopecia areata

Yong Hyun Jang

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Alopecia areata (AA) is an autoimmune disorder that causes hair loss, usually in patches, on the scalp, face, and other parts of the body. The severity of AA can vary greatly from person to person, with some individuals experiencing only a few small patches of hair loss while others may lose all of their hair.

Diagnostic guidelines are essential to define the severity of AA, as they help clinicians to accurately diagnose and monitor the condition. Currently, there are no universally accepted guidelines for defining the severity of AA. However, several grading systems have been proposed that can help to standardize the diagnosis and assessment of AA.

The Korean Hair Research Association (KHRS) comprised a task force team to establish a definition of moderate to severe AA. KHRS will build a consensus of definition of moderate and severe AA. These guidelines can help clinicians to accurately diagnose the condition, provide appropriate treatment, and monitor the progress of the disease. They can also aid in the design and implementation of clinical trials, which are crucial for developing new treatments and improving patient outcomes.

Keyword: Alopeica areata, Diagnostic guidelines, Korean, Severity

Session 2

Hair Biology

Chairs: Ohsang Kwon (Seoul national univ.)
Chang Hun Huh (Seoul national univ.)

Session 2. Hair Biology

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Professor, Department of Developmental and Cell Biology,
School of Biological Sciences, University of California, Irvine, CA, USA

Education:

2001-2007	Ph.D., University of Southern California, Los Angeles, CA (Pathology)

Research Training and Appointments:

2007-2009	Post-doctoral Researcher, University of Southern California, Los Angeles, CA
2009-2011	Post-doctoral Researcher, University of Pennsylvania, Philadelphia, PA
2011-2012	Research Associate, University of Pennsylvania, Philadelphia, PA
2012-2018	Assistant Professor, University of California, Irvine, Irvine, CA
2018-2020	Associate Professor, University of California, Irvine, Irvine, CA
2020-present	Professor, University of California, Irvine, Irvine, CA
2013-present	Member, UCI Cancer Center
2013-present	Member, UCI Center for Complex Biological Systems
2014-present	Member, UCI Developmental Biology Center

Awards, Honors:

2004-2005	University of Southern California Graduate School Oakley Fellowship
2007-2009	California Institute for Regenerative Medicine (CIRM) Post-doctoral Training, Fellowship
2010-2012	University of Pennsylvania Diabetes & Endocrinology Research Center (DERC) Pilot and Feasibility Grant
2013-2014	Dermatology Foundation Award
2013-2016	Edward Mallinckrodt, Jr. Foundation Award
2016-2020	Pew Charitable Trust Biomedical Scholar Award
2018	H.W. Mossman Award in Developmental Biology, American Association of Anatomists
2019	LEO Foundation Award 2019, Region Americas

2021	Faculty Innovation Fellow, UC Irvine Beall Applied Innovation
2022	W.M. Keck Foundation, Grant
2022	Innovator of the Year, UC Irvine Beall Applied Innovation

Professional societies:

2015-present	American Association for the Advancement of Science, Member (AAAS)
2013-presnt	Society for Investigative Dermatology, Member (SID)
2013-present	North American Hair Research Society, Member (NAHRS)

Activating effects of the stem cell niche on hair growth

Maksim Plikus

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Cell fate in tissues is tightly regulated by complex signaling networks. In mammalian skin, hair follicles (HFs) undergo periodic cycles of growth (anagen), regression (catagen), and rest (telogen), which are closely coordinated by short- and long-range signals emanating from HF niche cells, primarily dermal papilla (DP) fibroblasts, and diverse neighboring extra-follicular cells. Ultimate decision by HFs to enter new growth cycle or to remain quiescent depends on summation of activating and inhibitory signals from DP and extra-follicular cells. In some cases extra-follicular cells send molecular messages to HFs that copy and amplify DP messages. For example, dermal adipocytes produce Bone Morphogenetic Protein (BMP) factors that are also produced by DP cells during telogen, and jointly BMPs from numerous sources maintain HF epithelial stem cells in proliferative quiescence, preventing new hair growth. Yet, in other instances, extra-follicular cells can produce molecular messages not shared by DP cells, but for which epithelial HF stem cell express cognate receptors. Typically, such signals become produced by skin-resident cells, such as immune cells, upon tissue injury, such as skin wounding, and they are responsible for wound-induced hair growth. My talk will discuss both short- and long-range regulation of hair growth and the intersection between DP signals and extra-follicular signals. In the talk, I will demonstrate how factors produced by extra-follicular cells can have beneficial effects on hair regeneration and how they can inspire search for the next-generation hair growth-stimulating therapeutics.

Reiko Kageyama, M.D.

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Education and Training:

2011	Graduated from School of Medicine, University of Tsukuba
2013-2014	Medical Staff, Department of Dermatology, Hamamatsu University School of Medicine
2014-2018	Medical Staff, Department of Dermatology, Shimada Municipal Hospital
2018-Current	Assistant Professor, Department of Dermatology, Hamamatsu University School of Medicine

Memberships:

Member of the Japanese Dermatological Association
Member of the Japanese Society for Investigative Dermatology
Member of the Japanese Society for Cutaneous Immunology and Allergy
Member of the Japanese Skin Cancer Society
Member of the Japanese Society for Perspiration Research

Trichoimmunology-lesson from hair diseases

Reiko Kageyama

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Hair follicle is the largest skin appendage, and a unique organ that repeats constant hair growth cycle that shows a significant impact on the cutaneous immunity. Since 90% of hair tissue is anagen hair follicle, it is important to understand trichoimmunology in anagen stage hair follicle. The most important feature is that the hair bulb during anagen phase presents immune privilege. Hair follicle immune privilege is characterized by the decreased MHC class I expression, sparse immune cell distribution, and expression of immunosuppressive molecules. On the other hand, Hair tissue must always be prepared for bacterial invasion through the pores. Therefore, the distribution of many immune cells is seen around the infundibulum. In addition, hair follicles are protected from bacterial infections by the expression of Toll-like receptors and antimicrobial proteins such as defensin, cathelicidin and psoriasin It is speculated that this disruption of the immune environment is involved in the development of hair disorders. For example, disruption of immune privilege in the hair bulb leads to alopecia areata, and that of immune privilege in the hair bulge leads to frontal fibrosing alopecia (FFA). Staphylococci are more prominent in FFA and causing excessive inflammation by strong expression of βD1 and βD2 in the infundibulum and bulge may lead to scarring alopecia. Psoriasis is more likely to occur in hair growth area, and this indicates that various anagen phase maintaining factors such as IGF-1, VEGF, and IL-15, which are expressed hair tissue during anagen phase, are involved in psoriasis pathogenesis. In this presentation, we would like to discuss the environmental factors mainly immune system in hair tissue during anagen phase revealed by each hair disorders.

Luncheon Symposium

Chair: Soo-Hong Seo (Korea univ.)

Hyunsun Park, M.D., Ph.D.
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Faculty Appointment:

2012-2015 Clinical Medical Professor, Dermatology, SMG-SNU Boramae Medical Center
2015-2019 Clinical Assistant Professor, Dermatology, SMG-SNU Boramae Medical Center
2019- Clinical Associate Professor, Dermatology, SMG-SNU Boramae Medical Center

Memberships:

2017-present Korean Nail Society
2018-present Korean Hair Research Society
2020-present Korean Society for Immunodermatology

Effect and safety of finasteride based on long-term clinical data

Hyunsun Park

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Androgenetic alopecia (AGA) is the most common type of baldness, which is defined by a patterned, progressive hair loss of the scalp. Finasteride 1 mg is an approved treatment for male AGA patients aged 18-40 years. It preferentially inhibits type 2-selective 5α-reductase converting testosterone to dihydrotestosterone, which is thought to be the main pathogenetic factor of AGA. Finasteride has been used widely for more than 20 years to treat male AGA in clinical settings since its approval by U.S. Food and Drug Administration in 1997 and Korea Food and Drug Administration in 2000, respectively. Based on long-term clinical data of finasteride, the effect and safety of finasteride will be discussed in the presentation.

Jee Woong Choi, M.D., Ph.D.
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Education and Training:

2007	M.D., Seoul National University College of Medicine, Seoul, Korea
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2008-2012	Resident, Department of Dermatology, Seoul National University Hospital, Seoul, Korea
2012	M.S., Seoul National University Graduate School of Medicine, Seoul, Korea
2018	Ph.D., Seoul National University Graduate School of Medicine, Seoul, Korea

Current and Past Professional Positions:

2012-2015	Public Health Doctor, Danyang Public Health Care Center, Danyang, Korea
2015-2017	Clinical Fellow, Seoul National University Bundang Hospital, Seongnam, Korea
2017-2020	Clinical Assistant Professor, Department of Dermatology, Ajou University Medical Center
2020-present	Assistant Professor, Department of Dermatology Ajou University School of Medicine

Awards:

2010	Travel Grant, Korean Hair Research Society
2017	Travel Grant, Korean Hair Research Society
2018	Research Grant, Korean Hair Research Society
2020	Amore Pacific Scholarship

Society Memberships:

The Korean Dermatological Association
The Korean Hair Research Society
The Korean Society of Skin Cancer
The Korean Society for Dermatologic Surgery

Featured Publications:

1. Kim JC, Lee E, Choi JW. Impacts of Alopecia Areata on Psychiatric Disorders : A Retrospective Cohort Study. J Am Acad Dermatol. 2020 Feb;82(2):484-486
2. Kim JC, Choi JW. Impacts of Alopecia Areata on Subsequent pregnancy. Australas J Dermatol. 2021 Feb;62(1):e121-e123
3. Lee H, Kim YC, Choi JW. Alopecia areata is not a risk factor for heart diseases. PLOS one, 2021 May 7;16(5):e0250216
4. Choi JW, Kim DC, et al. A Survey of Non-dermatologic Facility Uses in Hair Loss Patients: A Nationwide Multi-Center Questionnaire Study. J Eur Acad Dermatol Venereol. 2021 Sep;35(9):e594-e597
5. Choi JW, Huh CH, Choi GS. Hair loss is related to suicidality and psychological adverse events rather than finasteride use. JAMA Dermatol. 2021 Jun 1;157(6):737-738
6. Lee H, Choi YW, Kim YC, Choi JW. Association between the first exposure to general anesthesia and alopecia areata. J Dermatol. 2023 Jan 18. doi: 10.1111/1346-8138.16712

Major Interests:

Hair and nail disorders, Skin cancer, Dermatologic surgery, Skin microbiome

Role of 5% topical minoxidil in patterned hair loss

Jee Woong Choi

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Minoxidil is a vasodilator drug that is believed to enhance blood flow to hair follicles and stimulate their growth. This sponsored presentation aims to discuss the role of using 5% topical minoxidil form in the treatment of patterned hair loss. It will cover the pharmacological properties, mechanism of action, and clinical efficacy of topical minoxidil in treating patterned hair loss. Furthermore, this lecture offers a concise summary of the benefits of using 5% topical minoxidil form in patterned hair loss treatment.

<Contents>

Session 3

Alopecia Areata

Chairs: Won-Soo Lee (Yonsei wonju univ.)
Gwang Seong Choi (Inha univ.)

Session 3. Alopecia Areata

Amos Gilhar, M.D.

Skin Research Laboratory, Ruth & Bruce Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

Academic degrees:

1977	MD, Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel

Academic Appointments:

1994-1998	Senior Lecturer, Ruth & Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa
1998-2012	Associate Professor, Ruth & Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa
2012-2015	Full Professor, Ruth & Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa
2015	Professor Emeritus, Ruth & Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa

Professional Experience and Qualifications

1976-1981	Residency, Department of Dermatology, Rambam Medical Center, Haifa
1981	Israeli Board Certification in Dermatology
1984-1985	Post Doctoral Fellowship, Department of Dermatology, University of Utah Medical Center, Salt Lake City, Utah, USA
1986-1992	Dermatology Consultant, Rivka Ziv Hospital, Safed
1986-present	Director, Skin Research Laboratory, Ruth & Bruce Rappaport Faculty of Medicine, Technion- Israel Institute of Technology, Haifa
1992-1993	Dermatology Consultant, Mazra Psychiatric Hospital, Acre
1992-1993	Dermatology Consultant, Psychiatric Hospital, Tirat Hacarmel
1993-1994	Deputy Director, Flieman Medical Center, Haifa
1995	Director (Substitution), Shoham Medical Center, Pardes Hanna-Karkur
1994-2017	Director, Flieman Medical Center, Haifa

Membership in Professional Societies:

International Society of Dermatology
European Hair Research Society
European Society for Dermatological Research
American Hair Research Society
European Academy of Dermatology and Venereology
The Society for Investigative Dermatology
Israel Dermatology Association
Israel Medical Association

Key open questions that have accompanied me in 45 years during alopecia areata research

Amos Gilhar

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Alopecia areata (AA) is a chronic inflammatory disease characterized by an autoimmune response to signals emanating from the hair follicle (HF), whose exact pathobiology remains to be fully decoded. This presentation explores selected, as yet insufficiently investigated frontiers in current AA pathobiology research, with emphasis on potential "new" players in AA pathobiology that deserve more systematic exploration and therapeutic targeting. Indeed, new evidence suggests that CD8+ T cells, long thought to be the central players in AA pathobiology, are not the only drivers of disease. Instead, subsets of NK and so-called "unconventional" T-cells), all of which can produce large amounts of IFN-γ, may also drive AA pathobiology independent of classical, autoantigen-dependent CD8+ T cell functions. This observation may lead to an increasing awareness that a classical, autoantigen- and CD8+ T cell-dependent autoimmune variant of AA (AAA) and a possibly autoantigen-independent non-autoimmune variant (NAIAA) may have to be distinguished from each other. This is in line with the long-standing, but often under-appreciated clinical recognition that AA shows a wide spectrum of phenotypes and sub-forms. Another important new frontier is the role of regulatory lymphocyte subsets such as Tregs, $\gamma\delta$ Tregs, NK-regulatory and NKT10 in maintaining the physiological HF immune privilege (IP), to which extent these functions are defective in AA patients, and how this IP protective role can be therapeutically restored in established AA. Broadening our AA research horizon along the lines suggested above, promises not only to open the door for innovative and even more effective immunotherapy strategies for AA, but will likely also be relevant for other autoimmune disorders in whose pathobiology reflect an imbalance between effector and regulatory immune responses and that restoration of the immune balance represents a promising therapeutic target in AA.

Jerry Shapiro, M.D.

Professor, The Ronald O. Perelman Department of Dermatology,
New York University School of Medicine, New York, USA
New York University Langone Medical Center, New York, USA
Bellevue Hospital, New York, USA

Education:

1981	McGill University M.D., Montreal, Canada
1981-1982	McMaster University Internship
1982-1985	University of British Columbia Dermatology Residency

Training and Fellowship Appointments:

1982	National Board of Medical Examiners (USMLE) Parts 1,2 and 3
1985	Diplomat of the American Academy of Dermatology-Board Certified
1985	Fellow of the Royal College of Physicians of Canada

Faculty Appointment:

2007-present	Professor, The Ronald O. Perelman Department of Dermatology, New York University School of Medicine
1986-present	Adjunct Professor, Department of Dermatology, University of British Columbia, Vancouver Canada

Memberships:

2000-present	Scientific Board Member, National Alopecia Areata Foundation
2006-present	Board Member, Cicatricial Alopecia Research Foundation
2011-2019	Board Member, International League of Dermatologic Societies (ILDS)

Baricitinib: An evolution in the treatment of alopecia areata

Jerry Shapiro

Ronald O. Perelman Department of Dermatology,
NYU Grossman School of Medicine, New York, USA

Background: Alopecia Areata (AA) is a condition characterized by patchy hair loss caused by the loss of immune privilege in the hair follicle. Diagnosis involves examination of the scalp and hair, and it is important to differentiate AA from other types of alopecia. AA involves a T cell-mediated immune response and upregulation of γ-chain cytokines, activating the JAK-STAT pathway. Patients with AA experience significant psychological and socio-economic burden. ClinROs and PROs are important for assessing the effectiveness of treatments.

Objective: The purpose of this presentation is to discuss the current state of the pathophysiology and diagnostic methods, management strategies, mechanism, and therapeutic effects of the JAK inhibitor baricitinib, as well as to present recent safety results for the treatment of Alopecia Areata (AA). There are various factors that can influence the unpredictable nature of AA hair loss, and the Severity of Alopecia Tool (SALT) is used to visually assess the extent and density of scalp hair loss while taking individual hair characteristics into account. However, SALT scores have limitations in differentiating between different types of alopecia, and other signs and symptoms of AA should also be considered for treatment and prognosis. Although the AA-IGA scale is useful, it has not been accepted as a regulatory endpoint due to controversy over its terms. Clinical Rating Outcomes (ClinROs) can evaluate severity and treatment response but may not fully capture the patient's perspective. Patient-reported outcomes (PROs), such as the Alopecia Areata Symptom Impact Scale (AASIS), Hair-specific Skindex-16, and Dermatology Life Quality Index (DLQI), can provide insight beyond ClinROs by capturing the patient's perspective.

Results: There are currently no FDA-approved treatments for AA, except Baricitinib, and most of the guidance for management is based on clinical and patient experiences. BRAVE-AA1 and 2, 3-phase studies confirmed the hair regrowth effect of baricitinib in patients with AA. The first study showed that over 80% of participants achieved hair regrowth of SALT 20 or less, which exceeded the 30-40% response rate typically observed. This response was consistent across age, gender, and race. HADS and Skindex-16 are patient-reported questionnaires used to assess anxiety, depression,

and quality of life in skin disease patients. Both use a rating scale, and higher scores indicate worse outcomes. Both results showed that the group treated with baricitinib had significantly better outcomes compared to the placebo group. The efficacy of baricitinib was maintained during a 52-week follow-up period, like the results seen at 12 and 36 weeks, with no significant changes in safety risks. Patients who continued to take Baricitinib showed maintenance of treatment benefit in scalp hair, eyebrow, and eyelash response through Week 76. However, those who switched to placebo at Week 52 showed hair loss from Week 56 and a decline in response rate through Week 76.

Conclusion: The treatment with baricitinib for up to 52 weeks demonstrated significant improvements in proportions of patients achieving scalp, eyebrow, and eyelash hair regrowth, along with enhancements in SALT scores and ClinRO for Eyebrow Hair Loss and Eyelash Hair Loss. However, getting Olumiant for a patient may require staff assistance due to insurance issues and paperwork, such as Prior Authorizations and letters of medical necessity, and the SALT score must be over 50 percent. Although it is generally not a problem in the USA, the process may vary across different countries.

Taisuke Ito, M.D., Ph.D.

Professor of Hamamatsu University Hospital, Shizuoka, Japan

Education and Training:

1995	Graduate from University Occupational and Environmental Health, Japan
1995	Department of Dermatology, Hamamatsu University School of Medicine, Hamamatsu, Japan
1996	Shizuoka General Hospital, Shizuoka, Japan
2002-2004	Department of Dermatology, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany
2004	Assistant Professor of Department of Dermatology, Hamamatsu University School of Medicine
2006	Assistant Professor of Department of Dermatology, Hamamatsu University School of Medicine
2019	Associate Professor of Department of Dermatology, Hamamatsu University School of Medicine
2020-	Professor of Hamamatsu University Hospital

Memberships:

Delegate of Japanese Dermatological Association
Councilor of Japanese Society for Investigative Dermatology
Councilor of the Japanese Society for Cutaneous Immunology and Allergy
Councilor of the Japanese Society for Pediatric Dermatology
Councilor of the Japanese Society of Aesthetic Dermatology
Director of the Society for Hair Science Research
Director of Japan Hair Science Association
Section editor of “Journal of Dermatology”
Member of European Society for Dermatological Research
Member of the Japanese Society of Pressure Ulcer
Member of the Japanese Society for Psoriasis Research

Potential of JAK inhibitors in the pathogenesis of alopecia areata

Taisuke ito

Department of Dermatology, Hamamatsu University School of Medicine, Shizuoka, Japan

Various cytokines are involved in the pathogenesis of alopecia areata (AA). It has been reported that the expression of cytokines related to Th17 cells such as IL-17, IL-21, IL-22, and IL-23 in serum and tissues of AA patients is elevated, and IL-7 and IL-12 are also involved. In C3H/HeJ, a mouse model of alopecia areata, IL-7 has been shown to accelerate the onset of the disease in mice implanted with alopecia lesions. Among these, IFN-γ and IL-15 are thought to be significant cytokines in the pathogenesis of AA. Viral infection is one of the important inducer of AA ,and a large amount of IFN-α is produced by plasmacytoid dendritic cells activated by viral infection, it binds to IFN-α receptors on cytotoxic T cells (CTLs) and activates CTLs to produce IFN-γ. The IFN-γ produced binds to receptors on follicular epithelial cells and enhances MHC class I expression and MICA expression on the epithelial cells. Follicular epithelium produces IL-15/IL-15Rα, which binds to receptors on CTLs. These cytokine receptors are involved in various gene expressions *via* the JAK-STAT pathway.

Baricitinib, a newly approved treatment for AA, is a JAK1/2 inhibitor, which inhibits the JAK-STAT pathway for many of the aforementioned cytokines by inhibiting JAK phosphorylation. As a result, it has shown efficacy in the treatment of AA with SALT >50, a condition that has been refractory to conventional therapy. Adverse events were also less severe. We would like to discuss the usefulness of baricitinib for AA in our case.

Session 4

Androgenetic Alopecia

Chairs: Hoon Kang (Catholic univ.)
Moon-Bum Kim (Pusan national univ.)

Session 4. Androgenetic Alopecia

Jung Eun Kim, M.D., Ph.D.

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Education and Training:

2004	M.D., College of Medicine, The Catholic University of Korea
2004-2005	Internship, Department of Dermatology, Catholic Medical Center
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2008-2012	Ph.D. Department of Dermatology, Graduate School of Medical Science, The Catholic University of Korea

Current and Past Professional Positions:

2009-2011	Clinical Instructor, Dermatology, Catholic Medical Center
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2016-2019	Assistant Professor, Department of Dermatology, Eunpyeong St. Mary's Hospital
2020-2022	Associate Professor, Department of Dermatology, Eunpyeong St. Mary's Hospital
2023-	Professor, Department of Dermatology, Eunpyeong St. Mary's Hospital

Society Memberships:

Korean Dermatological Association
The Korean Hair Research Society
The Korean Atopic Dermatitis Association
The Korean Society of Dermatopathology
Korean Society of Cutaneous Mycology

Major Interest:

Atopic Dermatitis, Hair, Stem cells, Wound healing

Update on the pathomechanism in androgenetic alopecia

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Androgenetic alopecia (AGA) is a common form of hair loss that is influenced by androgen hormones. Androgens, particularly dihydrotestosterone (DHT), are known to play a key role in the pathogenesis of AGA. DHT binds to androgen receptors in hair follicles, leading to miniaturization of the follicles and a decrease in hair growth. Oral finasteride and dutasteride, SRD5A2 (steroid 5 alpha-reductase 2) competitive inhibitors, have been only approved targeted drugs to treat AGA so far.

Genome wide association studies have identified numerous gene loci that influence hair growth cycle, androgen sensitivity, apoptosis, TGF beta pathway, oxidative stress, and conversion of pigmented terminal into non-pigmented vellus-like hairs. Several variations in these genes that are associated with an increased risk of AGA.

Comparisons of transcriptomic analyses between the lesional and nonlesional scalp skin have identified AGA-specific gene signature expression in the mRNA and non-coding RNA (miRNA & long ncRNA) which modulate gene expression in the of AGA.

Several studies have reported changes in DNA methylation patterns in genes associated with hair follicle development and function in individuals with AGA. Epigenetic modifications, particularly DNA methylation, may contribute to the development of AGA by regulating the expression of genes involved in hair follicle growth and function.

Recent studies have also identified the microbiome of the scalp as a potential factor in the development of AGA. Dysbiosis, or an imbalance in the microbial community on the scalp, may contribute to inflammation and hair loss. Overall, the pathogenesis of AGA is complex and multifactorial. Understanding the underlying biological mechanisms of the condition is important for developing effective treatments for AGA.

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Education and Training:

2014-2019 Ph.D. in Department of Health Sciences and Technology, SAIHST, Sungkyunkwan University, Seoul, Korea

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Current and Past Professional Positions:

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2014-2019 Researcher, Samsung Genome Institute, Samsung Medical Center, Seoul, Korea

2010-2014 Resident in department of dermatology, Samsung Medical Center, Seoul, Korea

Society Memberships:

Korean Hair Research Society

Featured Publications:

1. Long-term efficacy and safety of intravenous injection of clonal mesenchymal stem cells derived from bone marrow in five adults with moderate to severe atopic dermatitis. Shin HT, Lee SH, Yoon HS, Heo JH, Lee SB, Byun JW, Shin J, Cho YK, Chung E, Jeon MS, Song SU, Choi GS. J Dermatol. 2021 Aug;48(8):1236-1242.
2. Evolutionary processes of melanomas from congenital melanocytic nevi. Lim Y, Shin HT, Choi Y, Lee DY. Pigment Cell Melanoma Res. 2020 Mar;33(2):318-325.
3. Junction Location Identifier: Accurate Detection of DNA Fusions in Clinical Sequencing for Precision Oncology. Shin HT, Kim NKD, Yun JW, Lee B, Kyung S, Lee KW, Ryu D, Kim J, Bae JS, Park D, Choi YL, Lee SH, Ahn MJ, Park K, Park WY. J Mol Diagn. 2019 Dec 25. pii: S1525-1578(19)30456-8.
4. Prevalence and detection of low-allele-fraction variants in clinical cancer samples. Shin HT, Choi YL, Yun JW, Kim NKD, Kim SY, Jeon HJ, Nam JY, Lee C, Ryu D, Kim SC, Park K, Lee E, Bae JS, Son DS, Joung JG, Lee J, Kim ST, Ahn MJ, Lee SH, Ahn JS, Lee WY, Oh BY, Park YH, Lee JE, Lee KH, Kim HC, Kim KM, Im YH, Park K, Park PJ, Park WY. Nat Commun. 2017 Nov 9;8(1):1377.
5. Histopathological analysis of the progression pattern of subungual melanoma: late tendency of dermal invasion in the nail matrix area. Shin HT, Jang KT, Mun GH, Lee DY, Lee JB. Mod Pathol. 2014 Nov;27(11):1461-7.

Major Interests:

Genetic disease, Hair disease, Computational biology

Characteristics in pediatric androgenetic alopecia: What's the different from adult androgenetic alopecia?

Hyun-Tae Shin

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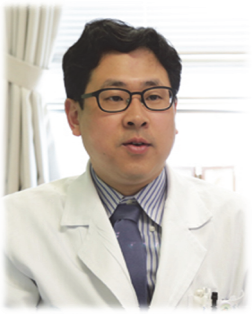
Androgenetic alopecia (AGA) is a well-known cause of hair loss in adults, but it can also affect adolescents, although the prevalence of the condition in this population is not well established. AGA in children is typically associated with a strong family history of the condition, and diagnosis is primarily clinical, involving a physical examination and dermoscopy. In some cases, hyperandrogenism should be ruled out. While there are no approved therapies for pediatric AGA, topical minoxidil has demonstrated success, and oral minoxidil and topical finasteride may be useful in select cases. This presentation provides a review of the current state of evidence on pediatric androgenetic alopecia, including its clinical characteristics and treatment options.



Chonghyun Won, M.D., Ph.D.

Professor and Chairperson, Department of Dermatology,
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Education:

1991-1997 Seoul National University College of Medicine (M.D.), Seoul, Korea

Training and Fellowship Appointments:

2001-2005 Dermatology Residency, Seoul National University Hospital, Seoul, Korea

2013-2015 Post Doc, Harvard University, Cutaneous Biology Research Center, Mass General Hospital, Boston, USA

Faculty Appointment:

2019 Professor, Dermatology, University of Ulsan College of Medicine, Seoul, Korea

2020 Chair Person, Convergence Medicine, Asan Medical Center, Seoul, Korea

2018 Chief, Skin Cancer Center, Asan Medical Center, Seoul, Korea

Memberships:

2005- Korean Dermatological Association

2005- Korean Hair Research Society

Update on the treatment of androgenetic alopecia and developing therapies

Chonghyun Won

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Androgenetic alopecia is a common hair loss disorder affecting majority of males over time. It is characterized by androgen related progressive thinning of hair in a defined pattern. Genetic factors and androgens are key role-players in disease pathogenesis. The current available medical treatments like finasteride and minoxidil are effective in arresting the progression of the disease, they allow only partial regrowth of hair. Although there are different treatments to stop hair loss and improve hair density, the 5-alpha reductase inhibitors have demonstrated to be effective in improving androgenetic alopecia in men and can maintain a positive response for many years. Finasteride and dutasteride, both have been shown to be safe in clinical trials but there is concern about sexual and mental adverse effects among patients. There has been increased interest in the possible adverse neurological effects of 5α-reductase inhibitors. Clinicians should be aware of the possible mental risks associated with 5-ARI use.

The use of topical finasteride has increased during the last few years as a treatment option to avoid systemic therapy and now on the market in Korea. The efficacy of topical finasteride 0.25% daily has been demonstrated in clinical trials, with a less marked decrease in serum dihydrotestosterone levels than with oral intake. Furthermore, non-pharmacologic treatments like PRP can be considered in patients refractory to medical treatment. Another treatment alternative is the use of light devices with wavelengths of between 630 and 660 nm, known as low-level laser therapy.

In this talk, I will review the pharmacologic treatment of androgenetic alopecia, which involves 5 alpha reductase inhibitors, minoxidil and prostaglandins. Non-pharmacologic approaches are also discussed.

Session 5

Amorepacific Symposium: Hair Loss in Female and Cosmetic Modalities

Chairs: Dong-Youn Lee (Sungkyunkwan univ.)
Won-Seok Park (Amorepacific R&I center)

Byung Cheol Park, M.D., Ph.D.
Professor and Chair, Department of Dermatology,
Dankook Medical College, Cheon-An, Korea

Education and Training:

1994-2000	M.D., School of Medicine, Kyungpook National University (KNU)
2004-2008	Resident, Department of Dermatology, KNU Hospital, Korea
2011-2013	Ph.D., School of Medicine, Choongnam University Graduate School

Current and Past Professional Positions:

2008-2009	Research Fellow, Department of Dermatology, Ajou University Hospital
2010-2016	Assistant Professor, Department of Dermatology, Dankook Medical College
2016-2022	Associate Professor and Chair, Department of Dermatology, Dankook Medical College
2022-present	Professor and Chair, Department of Dermatology, Dankook Medical College

Awards:

2010	Travel grant for 6th Meeting of World Hair Research Society
2014	Travel grant for 8th Meeting of World Hair Research Society
2015	Travel grant for 23rd Meeting of World Congress of Dermatology

Society Memberships:

Korean Dermatological Society (Board member)
Korean Hair Research Society
International Society for Hair Reconstruction Surgery
American Board of Hair Reconstruction Surgery (diplomat)

Featured Publications:

1. The effect of intradermal botulinum toxin on androgenetic alopecia and its possible mechanism. J Am Acad Dermatol. 2020 Dec;83(6):1838-1839
2. Comment on "The effect of platelet-rich plasma on female androgenetic alopecia: A randomized controlled trial": Phototrichogram analysis. J Am Acad Dermatol. 2021 Jun;84(6):e285-e286
3. Overlay photography technique to acquire the identical images to evaluate hair loss and treatment response in clinical practice. J Am Acad Dermatol . 2020 Oct 26;S0190-9622(20)32874-7

Major Interests:

Alopecia, Genetics, Hair transplantation

Review of the biomarker and treatment for female pattern hair loss

Byung Chul Park

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Female pattern hair loss (FPHL) is a prevalent hair loss disorder in women characterized by hair thinning from the mid-scalp to the vertex without the regression of the frontal hairline. While FPHL differs from male pattern baldness (MPB) in its clinical features, hair follicle miniaturization is a common histological characteristic observed in both conditions. Androgens have been identified as the primary cause of hair loss in MPB, with dihydrotestosterone (DHT) resulting from testosterone conversion causing hair follicles to miniaturize. However, the role of androgens in inducing hair loss in women has not been fully elucidated.

Although gene expression profiling studies to identify the genetic etiology of hair loss have largely focused on MPB, few genetic studies have been conducted to compare bald and non-bald hair follicles in FPHL. Previous research on FPHL has typically focused on androgenic factors and aromatase due to the established role of the androgen-dependent pathway in the etiology of MPB, with the assumption that FPHL shares the same underlying mechanism. However, FPHL is influenced by multiple factors, including hormones, environmental factors, and genetics. Recent genome-wide association studies (GWAS) of FPHL have not found significant candidate genetic variants shared with MPB, highlighting the need to explore specific genetic biomarkers for FPHL.

In this lecture, we tried to review the candidate biomarker or SNPs about the FPHL, and tell the result of critical genetic biomarkers for FPHL by conducting a whole-transcriptomic analysis of bald and non-bald hair follicles using high-throughput sequencing. In addition, I will discuss the treatment for FPHL such as oral 5 alpha reductase inhibitor (5ARI), oral minoxidil or topical minoxidil solution, topical alfatradiol, hair transplantation and so on.

Su Na Kim
Amorepacific R&I Center

Education and Training:

2006-2008 M.S. in College of Pharmacy, Seoul National University, Seoul, Korea

Current and Past Professional Positions:

2019-Present Leader of Hair Science Part in Bioscience Lab
2017-2018 Hair Project Leader in Future Technology Lab
2015-2017 Researcher in Scalp Hair Research TF
2010-2014 Researcher in Advanced Hair Research Lab
2008-2009 Researcher in Hair Care Team

Featured Publications:

1. Anti-Graying Effect of Pueraria Lobata Root Extract on Stress-Induced Hair Graying. Korean Journal of Cosmetic Science Vol. 48, No. 3, September 2022, 287-293
2. Fermented Jeju Soybean Extract Promotes Hair Growth in Human Hair Follicle Organ Culture and Clinical Trial. Korean Journal of Cosmetic Science Vol. 47, No. 3, September 2021, 255-263
3. Efficacy of Caffeine in Promoting Hair Growth by Enhancing Intracellular Activity of Hair Follicles. Korean Journal of Cosmetic Science Vol. 1, No. 1, December 2019, 11-18
4. Panax ginseng extract antagonizes the effect of DKK-1-induced catagen-like changes of hair follicles. Int J Mol Med. 2017 Oct;40(4):1194-1200
5. Ageing-Related Features of Hair and Scalp in Chinese Women by Clinical Evaluation Study. Journal of Cosmetics, Dermatological Sciences and Applications, 2017, 7, 245-257
6. The ginsenosides of Panax ginseng promote hair growth via similar mechanism of minoxidil. J Dermatol Sci. 2015 Feb;77(2):132-4
7. The inhibitory effect of Scutellaria baicalensis extract and its active compound, baicalin, on the translocation of the androgen receptor with implications for preventing androgenetic alopecia. Planta Med. 2014 Feb;80(2-3):153-8

8. Characteristic features of ageing in Korean women's hair and scalp. Br J Dermatol. 2013 Jun;168(6):1215-23
9. Effects of in vitro-digested ginsenosides on lipid accumulation in 3T3-L1 adipocytes. Planta Med. 2009 May;75(6):596-601
10. Simultaneous quantification of 14 ginsenosides in Panax ginseng C.A. Meyer (Korean red ginseng) by HPLC-ELSD and its application to quality control. J Pharm Biomed Anal. 2007 Sep 21;45(1):164-170

Major Interests

Hair cosmetics, Alopecia, Scalp, Hair biology

Review of studies on female pattern hair loss in cosmetic products

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Female pattern hair loss differs in form and severity from male pattern hair loss. While medications such as finasteride and dutasteride target male pattern baldness, there are no equivalent options available for women. Therefore, many women with hair loss concerns turn to cosmetic approaches for management. Cosmetic companies have researched female hair loss and identified various causes and solutions beyond 5a-reductase inhibition. Numerous clinical studies have shown that hair loss in women increases with age, as hair density, thickness, and volume decrease. Various targets and materials have been identified for improving female hair loss, including adenosine and vitamin complexes for increasing hair thickness, maintaining hair stem cell activation under low oxygen conditions, and ginseng for inhibiting hair loss factors. Recently, genetic analysis of female pattern hair loss patients' scalp has revealed significant increases in PTGDS and SFRP2. Amentoflavone, a PTGDS inhibitor, has been found to promote hair growth significantly in human hair follicle organ culture and hair follicle organoid. However, there is still a lack of specific targets for female hair loss, and further research in this area is needed.

2023년 제19차
대한모발학회 학술대회
19th Annual Meeting of The Korean Hair Research Society

Posters

P-01

Ganoderma lucidum extract attenuates corticotropin-releasing factor (CRF)-induced cellular senescence in human hair follicular cells

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[2]Laboratory of Cutaneous Aging Research, Seoul National University Hospital, Seoul, Korea
[3]Cosmax, Seongnam, Gyeonggi-do, Korea

Background: Stress has been profoundly associated with hair loss. Corticotropin-releasing factor (CRF), a proximal element of the hypothalamic-pituitary-adrenal axis, has been identified as key mediator of stress-induced hair growth inhibition. *Ganoderma Lucidum* (GL), a red-colored specie of Ganoderma, and its extracts has shown potent bioactive antioxidant, anti-aging, and anti-inflammatory properties.
Objective: To investigative whether GL attenuates cellular senescence and growth inhibition in CRF-induced senescent hair follicular cells.
Methods: SA-β-galactosidase (SA-β-gal) activity and alkaline phosphatase (ALP) activity were measured by SA-β-gal activity assay and ALP staining. The mRNA and protein levels related to senescence and growth were measured using RT-qPCR and Western Blot. Two-cell assemblage (TCA) length were analyzed using High-content screening (HCS).
Results: In this study, we revealed that CRF increased SA-β-gal activities and elevated the levels of senescence-related gene (*p16, p21, IL-6*) expression and increased the protein levels of p16 and p21 in hHFc. Furthermore, CRF inhibited length of TCA in 3D co-culture ex vivo system. Moreover, we found decrease of ALP activities and decreased the levels of growth-related genes expression (*fgf7, fgf10, pdgfa, pdgfr-β* and *ALP*) and elevation of reactive oxygen species (ROS) in the CRF-treated hHFc. Our results demonstrated that GL extract decreased SA-β-gal activities and reduced the levels of gene expression including *p16, p21* and *IL-6* and also decreased the protein levels of p16 and p21 in CRF-induced senescent hHFc. Furthermore, GL extract recovered TCA elongation and Ki-67 positive cells suppressed by CRF, and its extracts restored ALP activities and the downregulation of *fgf7, fgf10, pdgfa, pdgfr-β* and *ALP* in the CRF-treated DPCs. In addition, GL extract reduced production of CRF-induced ROS and suppressed phosphorylation of JNK/c-jun as cellular stress molecules in the CRF-treated DPCs.
Conclusion: We suggest that GL extract would attenuate stress-induced human hair follicular senescence by delaying premature catagen entry and ROS scavenging.

P-02

Irisin, exercise-mediated myokine, promotes hair growth via a Wnt/β-catenin pathway

Yujin Kim[1,2], Jung Min Lee[1,2], You Na Jang[1,2], A Yeon Park[1,2], Su-Young Kim[1,2], Joon Seok[1,2], Jung Ok Lee[1,2*], Beom Joon Kim[1,2*]

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Background: Alopecia affects men and women of all ages. Irisin is a myokine mainly secreted from skeletal muscle during exercise and acts as a link between muscles and other tissues. Exercise has many benefits for health and even affects hair condition by secreting various myokine, such as VEGF, IGF-1, FGF, and irisin. While VEGF, IGF-1, and FGF are well known for effecting hair growth, the effects of irisin on the hair growth were not reported.

Objective: To investigate whether irisin can promote hair growth.

Methods: The effect of irisin on cell viability, ALP activity, and mitochondria activity was investigated using the WST-8, ALP (alkaline phosphatase), and JC-1 mitochondrial potential assays. To evaluate the effect of irisin on the production of ATP, cell proliferation and mechanism underlying the regulation of cell proliferation was evaluated by western blotting and the mRNA expression of growth factors was evaluated by dot blot array and qRT-PCR. Wnt/GSK-3β/β-catenin signaling pathway was measuring by western blotting, immunocytochemistry, qRT-PCR. The elongation of the hair shaft was examined by evaluating an *ex vivo* human hair organ culture. New hair follicle generation and hair growth were investigated by evaluating an *in vivo* C57BL/6 mice.

Results: Irisin increased proliferation, alkaline phosphatase (ALP) activity, and mitochondria membrane potential activity ($\Delta\Psi$) in the human DPCs (dermal papilla cell). Irisin activated ERK and Wnt/β-catenin. then increases the expression of the down-stream targets, such as, Wnt3a, Wnt10b, and LEF. Irisin enhanced the elongation of the human hair shaft. In vivo patch assays, irisin also promoted new hair follicle generation. Furthermore, irisin accelerated anagen phase entry and significantly increased hair growth in C57BL/6 mice.

Conclusion: These results indicate that myokine irisin improves hair loss and is a new therapy target to treat alopecia.

P-03

Spatially resolved whole transcriptome profiling in alopecia areata using digital spatial profiling

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[2]Department of Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea
[3]Samsung Genome Institute, Samsung Medical Center, Seoul, South Korea
[4]Department of Dermatology, Eunpyeong St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Korea

Background: Alopecia areata (AA) is a complex autoimmune disease mediated by infiltration of T-cells within surrounding AA hair follicle (HF)s with a variable clinical course. Even after the introduction of targeted therapy such as JAK inhibitors available for AA, there is still an unmet need for more effective and safe treatments that can address the root cause of the condition and provide long-lasting results. Emerging spatial profiling technology has enabled highly multiplexed spatial profiling of RNA and protein targets in the distinct regions of interest at the whole transcriptome level and raised the possibility to discover new therapeutic targets.

Objective: We aimed to identify the AA-specific gene expression signature in the peribulbar inflammatory cell infiltration.

Methods: Here, we used GeoMx® Digital Spatial Profiler (DSP) to conduct an optimal whole transcriptome analysis of gene expression in regions of interest in formalin-fixed paraffin-embedded tissues obtained from 4 AA and 2 control subjects. The differentially expressed genes (DEGs) were analyzed between the groups with gene ontology (GO) term annotation.

Results: AA was distinctively separated from control group (95 upregulated and 23 downregulated DEGs). After Metascape gene annotation of upregulated DEGs, B cell receptor signaling pathway was identified to be the most closely related function in AA. The top 5 upregulated DEGs in AA were CCL13, LGR5, HBB, CCR8, and MMP12. Among JAK-STAT markers, LEPR demonstrated significant upregulation in AA.

Conclusion: The current spatial transcriptomic analysis suggests notable gene expression profiles that may contribute to pathogenesis of AA, which may provide insights for understanding AA.

P-04

The role of T-helper 17 cells and regulatory T cells in acute diffuse and total alopecia

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Background: Acute diffuse and total alopecia (ADTA) is a variant of alopecia areata (AA) that lacks the typical patchy hair loss seen in classical AA and presents with an acute onset of diffuse hair loss. It has a favorable prognosis.

Objective: This study was performed to assess the role of T-helper (Th) 17 cells and regulatory T cells (Tregs) in the pathogenesis of ADTA and their relevance to the good prognosis of ADTA.

Methods: Twenty-four patients with ADTA and 12 healthy controls were included. Scalp skin samples were obtained for measuring lesional mRNA levels of Th17 cells and Tregs related cytokines using quantitative polymerase chain reaction (qPCR). Serum cytokines associated with Th17 cells and Tregs were measured using enzyme-linked immunosorbent assays. Additionally, we measured the ratio of Th17 and Treg cells around hair follicles by immunostaining for Th17 cells and Tregs. The correlation of qPCR results, serum cytokine levels and immunostaining results with clinical characteristics was examined.

Results: Lesional IL-2, IL-10, and IL-23A levels were significantly higher in patients with ADTA than in controls. In the progressive stage, lesional IL-2, IL-13, and IL-23A levels were significantly increased compared to those in controls. Serum IL-15 levels was significantly lower in patients than in controls in the progressive stage. In the recovery stage, lesional IL-13 and IL-23A levels were significantly increased compared to those in controls. The ratio of Tregs/CD4+ cells surrounding hair follicles of the patients was 8.50%, according to immunostaining results.

Conclusion: Altered Th17 cell function was also observed in ADTA, but it was not as prominent as that in previous studies on AA. The increased activity of Treg cells identified through IL-10 and IL-15 is a characteristic of ADTA that is distinct from AA. The increased function of Tregs may explain the favorable prognosis of ADTA.

P-05

The virtual memory T cells-originated $CD8^+$ T cells cause hair follicle pathology in alopecia areata

Joon Seok[1,2], Sung-Dong Cho[2], Su-Young Kim[1], Jihye Heo[1], Yoon Hwan Lee[1], Jong Hoon Kim[3], Beom Joon Kim[1], Eui-Cheol Shin[2], Su-Hyung Park[2*]

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[3]Department of Dermatology and Cutaneous Biology Research Institute, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, Korea

Background: Virtual memory T (T_{VM}) cells are a T-cell subtype that exhibit a memory phenotype without prior exposure to a foreign antigen. However, pathological roles of T_{VM} cells causing inflammatory diseases have not been studied.

Objective: To investigate the pathological roles of $CD8^+$ T_{VM} cells in AA.

Methods: To induce AA mouse model, spontaneously developed AA C3H/HeJ mouse skin draining lymph node (SDLN) cells were intradermal injection to naïve C3H/HeJ mice. LSR II flow cytometry, FACS Aria II cell sorter, and RNA-sequencing were used to analyze the characteristics of $CD44^{s\text{-}hi}$ $CD49d^{lo}$ $CD8^+$ T cells. Additionally, and CITE-Seq was used to elucidate the origin of these $CD44^{s\text{-}hi}$ $CD49d^{lo}$ $CD8^+$ T cells.

Results: We have identified a novel population of $CD44^{s\text{-}hi}$ $CD49d^{lo}$ $CD8^+$ T cells that are clearly distinct from other cell populations in the SDLN and skin of AA C3H/HeJ mice, unlike in naive C3H/HeJ mice. These cells originate from T_{VM} cells stimulated by IL-12, IL-15, and IL-18, exhibit strong cytotoxic effector functions and proliferative capacity, and have the characteristics of resident memory T cells.

Conclusion: Our present results elucidated $CD44^{s\text{-}hi}$ $CD49d^{lo}$ $CD8^+$ T cells that originates from $CD8^+$ T_{VM} cells and can cause AA.

P-06

Decreased $CD19^{+}CD24^{hi}CD38^{hi}$ Regulatory B cells in Alopecia Areata

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Seok-Kweon Yun[1], Jin Kyeong Choi[2], Jin Park[1]

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Regulatory B cells (Bregs) have been considered negative regulators of immune response, by inhibiting anti-inflammatory cytokines and upregulating regulatory T cells (Tregs). Among several B-cell subsets, IL-10 producing Bregs regulate effector T-cell responses, inhibit Th1 and Th17 cell differentiation, and convert effector T cells, including CD4 and CD8 into Tregs. Recent evidence suggests the protective role of Bregs in T-cell-mediated diseases including lupus erythematosus, rheumatoid arthritis, and psoriasis. However, immune regulation by Bregs in alopecia areata (AA) involving hair follicles, has not been established yet. We investigated the B cell subsets in peripheral blood from 17 AA and age- and sex-matched 8 healthy volunteers (HV). The frequency of $CD19^{+}CD24^{hi}CD38^{hi}$, $CD19^{+}CD38^{int}CD24^{int}$, $CD19^{+}CD24^{-}CD38^{+}$, and IL-10 producing immature Bregs was examined after the stimulation of CPG using flow cytometry. We also analyzed the association between the frequency of B-cell subsets and clinical characteristics. The frequency of total and IL-10 producing $CD19^{+}CD24^{hi}CD38^{hi}$ B cells in AA patients was significantly decreased in AA patients compared with those of HV ($P<0.001$). However, $CD19^{+}CD24^{+}CD38^{-}$, $CD19^{+}CD38^{int}CD24^{int}$ and $CD19^{+}CD24^{-}CD38^{+}$ populations in AA patients were not significantly different between the two groups. IL-10 producing Breg deficiency may exert a negative immune regulator that counteracts T-cell driven autoimmune response of AA, by the collapse of hair follicle-immune privilege and by the upregulation of Th1- or Th17- producing cytokines such as IFN-γ and TNF-α. In conclusion, our results suggest a possible connection between IL-10 producing Bregs and AA, providing a novel diagnostic and therapeutic target of AA.

P-07

Characterization of gut microbiota in patients with alopecia areata

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Hyun Jeong Ju, Gyong Moon Kim, Ji Hae Lee

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The Catholic University of Korea, Seoul, Korea

Background: Alopecia areata (AA) is a nonscarring hair loss disease characterized by an autoimmune response to anagen hair follicles. The exact etiopathogenesis is still unknown, and a combined effect of environmental and genetic factors may be involved. Numerous researches have shown imbalances in the gut microbiota contribute to the development of autoimmune diseases, but the association between AA and gut microbial dysbiosis remains unclear.

Objective: Our aim was to identify and compare the composition of gut microbiome in patients affected by AA and healthy controls (HC) and to investigate possible bacterial biomarkers of the disease.

Methods: We conducted a cross-sectional study that involved 19 AA patients and 20 HC. Fecal samples were collected and amplified via polymerase chain reaction using fusion primers targeting from V3 to V4 regions of the 16S rRNA gene and sequenced using Illumina MiSeq Sequencing system. The relationships between fecal bacteria were analyzed using the EzBioCloud database.

Results: The three major genera that constitute the core of AA patients' gut microbiome were Bacteroides, Blautia, and Faecalibacterium. The α-diversity of AA group demonstrated no statistically significant difference compared with HC group ($p>0.05$). However, bacterial community composition in AA group was significantly different from that of HC group according to Jensen-Shannon dissimilarities (p2) of the genera Blautia and Eubacterium_g5 compared to HC group ($p<0.05$), whereas Bacteroides were lower ($p<0.05$).

Conclusion: The fecal microbiota of AA patients was distinct from those of HC group. Our findings suggest a possible involvement of gut microbiota in the unclear pathogenesis of AA. Further studies are needed to elicit the potential use of identified microbiota as a diagnostic tool or therapeutic target.

P-08

Correlation between trichoscopic and histopathologic features of alopecia areata

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[2]Department of Dermatology, Hanyang University Medical Center, Myongji Hospital, Goyang, Korea

Background: Trichoscopy and histopathological examination are useful non-invasive and invasive method for the diagnosis of alopecia areata (AA), respectively. Not much analysis has been done regarding the correlation between the two methods.

Objective: To establish the correlations between trichoscopic and histopathologic features of AA

Method: The study retrospectively analyzed 25 AA patients from Severance Hospital, Korea (Jan 2021-Mar 2023), who underwent 2 scalp biopsies (vertical, transverse) and trichoscopy.

Results: The mean age of the study participants was 36.92 with a female predominance (n=15, 60%). Only 3 (12%) cases showed typical peribulbar lymphocytic inflammation, known as peribulbar swarms of bee infiltrates, and 14 cases showed mild infiltration. Among 17 cases with infiltrates, eosinophils combined in 4 cases. No tricoscopic indicator was able to predict peribulbar infiltrate. Half of the patients (n=13) shows dilated infundibulum in vertical section but unexpectedly, this finding was not well correlated with the presence of yellow dot (YD) in trichoscopy. Countable hair shafts, including normal-looking hair, broken dot (BD), broken hair (BH), tapered hair (TH), regrowing hair (RH), coiled hair (CH), and undetermined, were variable (1~41.5 shafts/area). As expected, active signs (BD, BH, TH) were inversely correlated with regrowing signs (RH, CH) but mixed cases showing both features (active and regrowing) were also common. Obviously if regrowing hair patterns (RH or CH, n=2) are predominant (>50%) or only YD remained (n=3), peribulbar infiltrates were not noticeable.

Conclusion: Trichoscopic signs in the biopsied area do not directly correlate with histopathological status because the 4mm-punch biopsy sections may not provide us with comprehensive information on multiple hair follicles due to the limited area of evaluation.

P-09

Real-world effectiveness and safety of baricitinib in patients with alopecia areata

Sang-Min Choi, Soon-Hyo Kwon, Bark-Lynn Lew*

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Background: Oral Janus kinase (JAK) inhibitor baricitinib has demonstrated its effectiveness in reversing hair loss in alopecia areata (AA) in several pivotal clinical trials. Recently, the oral selective reversible JAK1/JAK2 inhibitor, baricitinib has been approved in the United States and South Korea for the treatment of severe AA in adults.

Objective: We investigated the real-world effectiveness of baricitinib in patients diagnosed with AA.

Methods: This retrospective analysis included all patients aged ≥18 years diagnosed with AA treated with baricitinib 4 mg for a minimum of 6 months from January 2019 to January 2023 in our institution. The efficacy was evaluated using the severity of alopecia tool (SALT), and any treatment-emergent adverse events were recorded.

Results: Total of 19 patients diagnosed with severe AA (SALT ≥50) at the time of baricitinib treatment introduction were analyzed. Mean baseline SALT score was 92.09 ± 17.89, where 9 patients were diagnosed with alopecia totalis, and 7 patients were diagnosed with alopecia universalis. Mean treatment period with baricitinib was 14.37 ± 8.60 months, where any form of hair growth was observed in 16/19 (84.21%) patients. The median time for notable hair growth was 4 months after treatment. Of the 19 patients, the proportion of patients achieving SALT score ≤ 50 and/or SALT score ≤ 20 at the most recent follow-up visit after treatment was 57.89% (11/19), and 47.37 (9/19), respectively. Regarding safety of baricitinib, a single case of eczema herpeticum developed during treatment. The remaining patients presented no treatment-emergent adverse events, with normal laboratory findings including liver enzymes and creatinine kinase, and platelet counts.

Conclusion: Baricitinib 4 mg demonstrated efficacy and safety in AA, even in the most severe forms. This is the first real-world data reporting the efficacy of baricitinib in AA.

P-10

Clinical efficacy and safety of baricitinib for alopecia areata in Korea: Single centre experience

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Background: Alopecia areata (AA) is a common autoimmune disease characterized by hair loss ranging from patch to complete hair loss. As the importance of the JAK/STAT pathways has recently been recognized, they have been targeted for AA treatment.

Objective: To investigate the effectiveness and safety of baricitinib in Korean patients with alopecia areata.

Methods: We retrospectively reviewed 58 alopecia areata patients who were treated with baricitinib once-daily dose of 4 mg for at least 8 weeks. The Severity of Alopecia Tool (SALT) and the Clinicial-Reported Outcome (ClinRo) were used to assess the extent of scalp-hair loss and eyebrows or eyelashes, respectively.

Results: Patients with a baseline SALT score of 95 or more were defined as a very severe AA group, SALT score of 50 or more and less than 95 were defined as a severe AA group, and SALT score of 20 or more and less than 50 were defined as a moderate AA group. Also, we defined the percentage of change from baseline in SALT score as Delta SALT. The SALT score decreased significantly over time across the entire group. In moderate AA group, the Delta SALT was 86% at 36 weeks. The Delta SALT was 43% in severe AA group and 35% in very severe AA group at 36 weeks. The percentage of patients with a decrease of at least 2 points of ClinRO measure for eyebrow and eyelash were 25% (5 out of 20) and 21% (3 out of 14), respectively. Acne was relatively common side effect.

Conclusion: In this study involving patients with moderate to very severe alopecia areata, oral baricitinib showed excellent therapeutic effects in all subdivided groups. It is expected to be a promising treatment option for alopecia areata.

Key words: Alopecia areata, Baricitinib, Janus kinase inhibitor

P-11

Efficacy of oral alitretinoin in alopecia areata

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Background: Although there have been a few cases showing the efficacy of alitretinoin in alopecia areata (AA), its exact therapeutic role in AA needs to be clarified.

Objective: To assess the therapeutic effect of alitretinoin in AA.

Methods: We divided forty-nine patients with AA who took alitretinoin into three groups. The first group (group A, n = 13) took only alitretinoin. The second group (group B, n = 10) received additional treatment after alitretinoin monotherapy. The third group (group C, n = 26) took alitretinoin when showing resistance to other treatments. All patients took 30mg of alitretinoin daily for at least 8 weeks. Therapeutic response was evaluated by the percent change in Severity of Alopecia Tool (SALT) score during treatment.

Results: In group A, 6 (46.2%) patients had a change in SALT score of greater than 50%, while 1 (7.7%) patient showed less than 25% change. In group B, 3 (30%) patients had a change in SALT score less than 25%. In group C, 5 (19.2%) patients had a change in SALT score of greater than 50%, while 2 (7.7%) patients showed less than 25% change. Patients with SALT score less than 25 showed a higher percent change in SALT score. 8 patients stopped treatment due to adverse effects.

Conclusion: Alitretinoin monotherapy could be a new therapeutic option for AA, especially in the case of mild AA, and even recalcitrant AA in which some additive and safe option is necessary due to poor response to standard treatments.

P-12

Efficacy of calcipotriol/betamethasone ointment in management of pediatric alopecia areata

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Topical corticosteroids are widely acknowledged as the first-line treatment for pediatric alopecia areata. However, there still exist some cases that are recalcitrant to topical corticosteroid application. Vitamin D analogs may serve as a viable alternative treatment option for such cases.

The objective of this study was to evaluate the effectiveness of calcipotriol/betamethasone ointment in pediatric alopecia areata.

In a 12-week retrospective study, 32 patients under 18 years old with alopecia areata were included as participants. The affected areas were treated with an 0.0001% calcipotriol/betamethasone ointment twice a day. Baseline and subsequent SALT scores were assessed at 4, 8, and 12 weeks.

The study comprised 32 participants, including 20 females and 12 males, with a mean age of 4.25±2.51 years. Out of all the patients, 18 had a SALT score above 50 and 14 had a SALT score below 50. The mean duration of disease was 5.53±7.86 months. Patients with SALT scores higher than 50 showed hair regrowth in 7.41±4.57 weeks, whereas patients with SALT scores lower than 50 had hair regrowth in 6.77±3.00 weeks. After the 12-week trial, 71.9% of the patients showed hair regrowth, and 9.3% of patients did not respond to the treatment. It was found that 16 (69.6%) patients had a change in SALT score of less than 25%, while 7 (30.4%) patients had a change in SALT score between 25-50%. No significant adverse effects were reported.

Calcipotriol/betamethasone ointment is a potentially safe and effective therapeutic approach for treating pediatric alopecia areata.

P-13

Low-dose weekly methotrexate treatment in pediatric alopecia areata

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Background: Childhood alopecia areata (AA) is associated with a poor prognosis, and it severely affects the patients' quality of life. Methotrexate's (MTX) safety and efficacy have been reported in adults with AA, but there is limited information regarding its use in children.

Objective: We aimed to evaluate the effectiveness and safety of low dose weekly MTX in childhood AA patients.

Methods: We conducted a retrospective chart review of childhood AA patients who were treated with methotrexate between January 2021 and April 2023 at a tertiary hospital center.

Results: Fourteen patients were included in the study, all of whom had AA refractory to either DPCP contact immunotherapy or systemic steroids and/or cyclosporine A. The baseline SALT score was 69, including 7 patients with AT/AU. The mean dose of administered methotrexate was 6.43 mg/week, with a mean duration of 14.7 months. Three patients (21.4%) showed complete or near-total regrowth of hair, and nine patients (64.3%) experienced significant improvement, defined as regrowth of hair more than 50% from baseline. All patient except one showed some degree of response to MTX. Some patients experienced adverse events, such as febrile sensation (n=2), oral mucositis (n=1), chest discomfort (n=1), and elevation of serum AST/ALT (n=1) or serum bilirubin (n=1), but all events were transient and did not result in discontinuation of MTX.

Conclusions: The efficacy and safety of low dose MTX in childhood AA is high, with a favorable response rate and a relative low incidence and severity of adverse events. MTX may be considered as a safe treatment for refractory childhood AA patients, although the complete regrowth rate may be relatively low.

P-14

Treatment patterns and healthcare resource utilization among patients with severe alopecia areata: A real-world study in Korea

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Background: Alopecia areata (AA) is prevalent in the Asia-Pacific region. However, the clinical features, course of the condition, and epidemiology in Korean patients is unclear.

Objectives: To characterize treatment patterns and healthcare resource use among patients with severe AA in Korea.

Methods: A survey of 40 dermatologists was conducted in which the medical charts of 151 adult patients diagnosed by clinician judgement with severe AA (May 2019–April 2021) were reviewed.

Results: Mean patient age at diagnosis of severe AA was 37 (range: 22–68) years; 53% were male and 66% were diagnosed with severe disease at initial presentation. Most patients (93%) received treatment; 46% received ≥2 lines of treatment during a mean follow-up of 24 months. First-line treatment discontinuation due to lack of efficacy occurred in 46% of cases. Hair regrowth occurred in 71% of patients, 59% of whom experienced major regrowth (≥60%) during the follow-up period. Median (95% CI) time to regrowth was 14 (11–21) months. Treatment visit rates per-patient-per-year (PPPY) ranged from two (phototherapy) to ten (topical treatment), dermatologist visits occurred at a rate of 13 PPPY; 6% of patients were hospitalized due to AA.

Conclusions: The burden of AA in Korea is high. Despite intensive treatment and frequent contact with the healthcare system, a substantial proportion of patients do not achieve meaningful hair regrowth suggesting an unmet need.

P-15

Objective evaluation of sleep quality and quality of life in alopecia areata and its association with clinical manifestations

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Background: Alopecia areata (AA) is common non-scarring alopecic disease affecting 2% of general population, attributed to the collapse of immune privilege on hair follicle. Previous studies with Pittsburgh sleep quality index (PSQI) or Dermatology life quality index (DLQI) showed impaired sleep quality or quality of life in AA patients. However, detailed correlation among PSQI, DLQI, and clinical manifestations of AA still needs to be elucidated.

Objective: This study investigated the application of PSQI and DLQI in Korean AA patients, analyzing its correlation with clinical features of AA including severity of alopecia tool (SALT) and therapeutic response.

Methods: Electronic medical records were retrospectively reviewed from 2018 to 2023 in Busan Paik Hospital. PSQI and DLQI data were collected with the patients' demographics and AA-related features including duration, SALT score, preceding stressful event, underlying disease, past or family history of alopecia, hair pull test (HPT), and therapeutic response.

Results: A total of 177 subjects were enrolled with the mean age of 38.8 years (male-to-female ratio 1:1.36). Mean PSQI, DLQI, and SALT score were 6.66, 6.05 and 1.74. Among overall subjects, 55.3% was poor sleeper (PSQI≥6) and 45.1% had moderate to severe severity of AA (S2-5). Past or family history of AA was identified in 36.1% or 13.5%. Preceding stressful event or HPT positivity was confirmed in 63.8% or 38.4%. DLQI score significantly increased in higher SALT grade (S1: 4.1, S2: 8.4, S3-5: 8.1), while PSQI score showed negative correlation (S1: 7.0, S2: 6.6, S3-5: 5.7) (p<0.05). DLQI score significantly increased in dose-dependent manner with PSQI elevation (4.5, 6.7 or 8.4 in PSQI 0-5, 6-10 or 11-15), vice versa for PSQI score (5.7, 6.2 or 7.6 in DLQI 0-1, 2-5 or 6-30) (p<0.05).

Conclusion: Significant positive correlation was observed between sleep quality and quality of life in AA patients.

P-16

Differences of cardiovascular factors in male androgenetic alopecia according to female pattern hair loss

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Recently, many studies suggested possible relationship between androgenetic alopecia (AGA) and metabolic syndrome, cardiovascular disease, and cerebrovascular diseases. One of previous study proposed that the female pattern hair loss (FPHL) showed an association with stroke, hyperlipidemia, and higher BMI and it was suggested whether this gender difference was due to the AGA mechanism difference. In FPHL, the concentration of aromatase, which converts testosterone and dihydrotestosterone into estrone and estradiol, is lower in frontal area than occiput. Therefore, in this study, we aimed to investigate whether frontal baldness is accompanied by the influence of sex hormones in men, and if so, cardiovascular disease-related indicators are worse than those in unaccompanied patients.

In this study, multivariable regression was used as a retrospective case-control study for 1,103 male AGA patient who participated in our dermatologic outpatient clinic and health examination at Wonju Severance Christian Hospital from 2012 to the present. When Chi-square and univariate regression were performed, age, BMI, stroke, cardiovascular disorder, alcohol intake, and family history were statistically significant, followed by multivariate logistic regression. As a result, it was found that the odds ratio was increased statistically significantly for BMI, stroke history, and material history of alopecia.

Therefore, this study suggests that difference between the mechanism of male hair loss and female hair loss is due to estrogen, and estrogen plays an important role due to hormonal imbalance in men, and maternal AGA history is one of the causative factors for the results of estrogen in men.

Key words: Cardiovascular, Androgenetic alopecia, Estrogen

P-17

Effectiveness and safety of low-dose oral minoxidil in female pattern hair loss: A single-center study of 42 patients

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Background: Female pattern hair loss (FPHL) is a disorder characterized by diffuse hair thinning over the mid-frontal scalp and somewhat increased hair shedding. Minoxidil is a potent vasodilator approved for the treatment of severe refractory hypertension. Minoxidil can induce several side effects such as hypertrichosis. Based on this serendipitous adverse effect, topical minoxidil was developed for hair loss. Recently, use of low dose oral minoxidil (LDOM) is significantly increasing in Korea.

Objective: To investigate the effectiveness and safety of LDOM in Korean FPHL patients

Methods: This was a retrospective, single-center study in Pusan National University Hospital. FPHL patients treated with LDOM (1.25 mg/day) for a minimum of 6 months as monotherapy or with other treatments were included. Other treatments (pantothenic acid, spironolactone, finasteride, topical minoxidil) had showed limited response which led to adding LDOM and there were no changes in treatment during the evaluation period. Clinical features were examined by the review of medical records and photographs. Clinical response was evaluated using Sinclair hair loss severity scale.

Results: A total of 42 FPHL women with a mean age of 39.5 were included. 2 patients received LDOM as monotherapy, while 40 patients received other concomitant therapies. The average Sinclair scales were 2.78 before treatment and 2.28 after treatment, and no patients worsened. Adverse effects were observed in 9 patients, mainly hypertrichosis. Other adverse effects included postural hypotension, lightheadedness and palpitation. Only 2 patients were withdrew from treatment. All adverse effects improved with withdrawal of LDOM, and no life threatening adverse effects were found.

Conclusion: This study provides evidence that low dose oral minoxidil may be an effective therapeutic option with a safe profile and well-tolerated adverse effects for FPHL.

P-18

Prevalence and incidence of comorbid diseases and mortality risk associated with lichen planopilaris: A Korean nationwide population-based study

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Background: Various comorbid diseases have been reported in patients with lichen planopilaris (LPP); however, data regarding the risks of incident diseases and mortality are lacking.

Objective: To investigate the risk of comorbid diseases and mortality in patients with lichen planopilaris.

Methods: This was a retrospective nationwide population-based study, using data from the National Health Insurance Service Database of Korea from 2002 to 2019. Patients aged ≥18 years with ≥3 documented medical visits for LPP were included. The adjusted hazard ratios (aHRs) for incident disease outcomes and mortality were compared with 1:20 age-, sex-, insurance type-, and income level-matched controls.

Results: In total, 2,026 patients with LPP and 40,520 controls were analysed. The risks of incident systemic lupus erythematosus (aHR, 1.91; 95% confidence interval [CI], 1.21–3.03), psoriasis (aHR, 3.42; 95% CI, 2.83–4.14), rheumatoid arthritis (aHR, 1.39; 95% CI, 1.19–1.63), lichen planus (aHR, 10.07; 95% CI, 7.17–14.15), atopic dermatitis (aHR, 2.15; 95% CI, 1.90–2.44), allergic rhinitis (aHR, 1.29; 95% CI, 1.13–1.49), thyroid diseases (hyperthyroidism [aHR, 1.42; 95% CI, 1.14–1.77], hypothyroidism [aHR, 1.19; 95% CI, 1.01–1.41], and thyroiditis [aHR, 1.35; 95% CI, 1.08–1.69]), non-melanoma skin cancer (aHR, 2.33; 95% CI, 1.00–5.44), and vitamin D deficiency (aHR, 1.23; 95% CI, 1.03–1.47) were higher in patients with LPP. Patients with LPP had a higher mortality rate than controls (aHR, 1.30; 95% CI, 1.04–1.61), although the risk was not significant after adjusting for comorbidities (aHR, 1.08; 95% CI, 0.87–1.34).

Conclusions: Patients with LPP had a higher risk of various diseases following LPP diagnosis. Close follow-up is needed to optimize comprehensive patient care.

P-19

Multicenter survey on disease awareness, medical use behavior, diagnosis and treatment status, quality of life and comorbidities in primary cicatricial alopecia patients

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Primary cicatricial alopecia (PCA) is a rare idiopathic inflammatory disease that causes irreversible destruction of hair follicles, which affects quality of life (QOL). Therefore, rapid diagnosis and steady treatment is important.

We aimed to investigate patients' disease awareness, medical use behavior, QOL, and real-world diagnosis and treatment status of the patients with PCA.

A self-administrated questionnaire was conducted on PCA patients and their dermatologists. Patients between the age of 19 and 75 years, who visited one of 27 dermatology departments between September 2021 and September 2022 were included.

A total of 274 patients were included and analyzed. The ratio of men to women was 1:1.47, with mean age of 45.6. Neutrophilic and mixed PCA patients had a male predominance and were younger than lymphocytic PCA patients. Among lymphocytic PCA patients, lichen planopilaris was the most common, and among neutrophilic PCA patients, follicultis decalvans was the most common. Only 28.8% of patients were previously diagnosed with PCA. The average time duration from the first hospital visit to the diagnosis of PCA was 6 months. Only 20.0% of patients received early treatment within 3 months of onset and only 54.4% of patients received steady treatment. 38.9% of patients said treatments were effective. More than half of the patients had a moderate to severe impairment in QOL.

Topical and intralesional injection of steroid was the most common treatment. Systemic immunosuppressant was frequently prescribed in lymphocytic PCA patients and antibiotics were mostly prescribed in neutrophilic PCA patients.

This study provides information on disease awareness, medical use behavior, QOL, frequency of common PCA, and real-world prescriptions of Korean PCA patients. This would help dermatologists educate patients with PCA to understand the necessity of early diagnosis and steady treatment.

P-20

Efficacy of oral retinoids as a maintenance therapy in cicatricial alopecia: A retrospective study

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Background: Cicatricial alopecias (CA) comprise a diverse group of scalp disorders where the hair follicles are permanently destroyed with unknown etiology. The main treatment goal is to reduce the ongoing inflammation and prevent further hair loss using various treatment modalities including corticosteroids, immunosuppressants, and antimicrobials.

Objective: We investigated the efficacy of oral retinoids as a maintenance therapy for various types of CA.

Methods: This retrospective analysis included all biopsy proven cicatricial alopecia patients aged ≥18 years treated with either isotretinoin, or alitretinoin as maintenance therapy from January 2015 to December 2022 in our institution.

Results: Total of 75 patients were included in the study. Of the 75 patients, 60 patients were diagnosed with folliculitis decalvans, 5 patients with frontal fibrosing alopecia, 5 patients with pseudopelade of Brocq, 4 patients with dissecting cellulitis of scalp, and 1 patient with discoid lupus erythematosus. The mean treatment period was 17.41 months ± 19.23, and the mean time period of oral retinoid initiation was 3.47 months ± 9.04 after the diagnosis. For the initial bridging therapy, cephalexin was used in 58 patients, and systemic corticosteroid was used in 17 patients. Complete response (absence of active lesions) was seen in 54/75 patients, where partial response (persistence of some active lesions), and no response were seen in 18/75, and 3/75, respectively. Three patients exhibited disease progression, and the most common treatment emergent adverse event was xerosis.

Conclusion: Oral retinoids demonstrated effectiveness as a maintenance therapy in CA, and when active inflammation is halted after the use of antibiotics and/or systemic corticosteroids, retinoids can provide a reliable treatment choice as a maintenance therapy.

P-21

Animal and clinical trials to evaluate the efficacy and safety of complex of persimmon leaf and other extracts (BLMo-308) on hair health

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Background: With the rising prevalence of hair loss and an increasing number of patients seeking treatment, there has been a surge in public interest in maintaining healthy hair.

Objective: Animal and clinical trials have been conducted to evaluate the efficacy and safety of BLMo-308, a hair health product prepared using persimmon leaves (*Diospyros kaki*), green tea (*Camellia sinensis*), and sophora fruit (*Sophora japonica*).

Methods: In *in vivo* experiment, testosterone propionate was subcutaneously injected into C57BL/6 mice to inhibit hair growth, and BLMo-308 was orally administered daily for 5 weeks to evaluate the hair growth promoting effect. The clinical trial was conducted as a 24-week, randomized, double-blind, placebo-controlled clinical study of BLMo-308 versus control food (placebo). Hair density and diameter, gloss of newly grown hair, IGA, tensile strength of newly grown hair, volume of newly grown hair, scalp moisture, scalp transepidermal water loss, and satisfaction survey were evaluated.

Results: BLMo-308 exhibited an effect of improving hair loss by promoting the arrival of the growth phase of the hair cycle in testosterone propionate-induced hair-loss C57BL/6 mice. A total of 101 participants were enrolled for the clinical trial. After 24 weeks of intake, BLMo-308 was significantly superior to placebo in terms of change from baseline in hair density and diameter ($p < 0.001$) for both of PP and FA sets. During the clinical trial period, there were no serious adverse events or dropouts owing to adverse events. Statistical analysis performed with female participants also showed a significant increase in hair density and diameter in the BLMo-308 intake group compared to the control group ($p < 0.05$), confirming that it can be safely used by women.

Conclusion: BLMo-308 intake is expected to improve hair health and considered safe. Therefore, it can be a promising candidate for maintaining and improving hair health without any adverse effects.

P-22

Two cases of congenital alopecia areata

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Background: There are some diseases that present focal hair loss patches without scars from birth to infants. Among them, congenital alopecia areata (CAA) is rarely reported in infancy and neonatal period, making it difficult to diagnose due to similar clinical features.

Objective: The aim of this study is to determine the dermoscopic findings of CAA and to differentiate other diseases through dermoscopy.

Methods: We retrospectively reviewed two cases of CAA.

Results: Two cases were a 14-month-old girl and a 4-year-old boy who presented nonscarring, peach hue or flesh-colored 2.0*2.5 cm and 3.0*3.0 cm sized hair loss patches at birth. The dermoscopic findings showed that clustered vellus hairs, black dots, and broken hairs. Therefore, we clinically diagnosed CAA. We prescribed 5% minoxidil solutions to our patients. The dermoscopic findings showed that their hairs were growing. Their hairs are growing well without any adverse effects or unusual findings until now.

Conclusion: Dermoscopic findings, such as vellus hairs, black dots, and broken hairs, will help differentiate CAA from other hair loss.

Keywords: Congenital alopecia areata, Dermoscopy

P-23

A case of alopecia areata with latent syphilis clinically confused with alopecia syphilitica

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Alopecia areata (AA) is one of the most common causes of inflammation-induced hair loss. The diagnosis is obvious in most cases due to the characteristic physical findings, but various clinical patterns may be present. Meanwhile, Alopecia syphilitica (AS) is an uncommon manifestation of secondary syphilis. It is a nonscarring alopecia that can present in a diffuse pattern, a moth-eaten pattern, or a mixed subtype. Sometimes, due to its similar clinical presentation to other forms of alopecia such as alopecia areata, diagnosis can be challenging. Herein, we report a case of alopecia areata with latent syphilis clinically confused with alopecia syphilitica.

A 61-year-old male patient presented with asymptomatic diffuse hair loss patches all over the scalp for several months. Dermoscopic examination revealed broken and thinned hairs with exclamation marks. Through a serologic test, he was diagnosed with latent syphilis. Histopathologic findings showed increased number of miniatured hair follicles with peribulbar lymphocytic infiltration. Warthin-Starry stain was negative. Based on the clinical, laboratory, and histological findings, he was diagnosed as alopecia areata with latent syphilis. The patient was treated with oral antihistamines, oral cyclosporine, topical minoxidil and topical clobetasol for 1 month and the lesion showed improvement. Also, intramuscular injection of Benzathine penicillin G was performed three times and is undergoing periodic follow-up for syphilis.

Clinical presentations of AS can mimic that of AA, and when AA occurs in syphilis patients, differential diagnosis between these two diseases can be even more challenging. Careful evaluation, including dermoscopy, scalp biopsy and special staining, are necessary for an accurate diagnosis.

P-24

A case of alopecia areata mimicking frontal fibrosing alopecia

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Alopecia areata (AA) is an autoimmune nonscarring hair loss disorder. It has various clinical manifestations from the characteristic well-circumscribed round- or oval-shaped patches to more diffuse patterns which make diagnosis challenging. Dermoscopic findings usually show the presence of follicular ostia, exclamation point hairs, black or yellow dots. Meanwhile, Frontal fibrosing alopecia (FFA) is a type of primary cicatricial alopecia characterized by a progressive frontotemporal recession. It is considered an irreversible process unlike AA. Differential diagnosis between AA and FFA can be challenging since clinical features may overlap, especially with involvement of the frontal hairline. Herein, we report a case of alopecia areata mimicking frontal fibrosing alopecia.

A 21-year-old female patient presented with asymptomatic diffuse hair loss patches on the frontal hairline for 2 years. Receded frontal hairline was also observed. Dermoscopic examination revealed broken and thinned hairs with scalp erythema. Histopathologic findings showed increased number of miniatured hair follicles with peribulbar lymphocytic infiltration. The patient was diagnosed with alopecia areata and started intralesional injection of triamcinolone and topical desoxymethasone.

Although AA and FFA are two distinct disease entity with discrete clinical characteristics, sometimes AA involving frontal hairline can look similar to FFA. In that case, FFA should be considered as a differential diagnosis of AA, as the timely treatment of FFA is crucial to clinical outcome.

P-25

Treating severe alopecia areata in an adolescent patient with upadacitinib

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Baricitinib, a janus kinase (JAK) 1/2 inhibitor, has been in the limelight as the only FDA approved JAK inhibitor for severe alopecia areata (AA). However, since it is only approved for adult patients with severe AA, unmet needs still remains in children and adolescent patients under the age of 18. A 15-year-old female presented with 11-year history of complete hairloss on scalp and eyebrows with severity of alopecia tool (SALT) score of 100. Since she had no relief with conventional therapies, we started upadacitinib at dose of 15 mg/day orally. After 2 months, eyebrows were noted to improve. After 10 months and 12 months of treatment, SALT score was 31.8 and 11.7, respectively. No laboratory abnormalities nor adverse effect was found during and after treatment.

By the JAK3 signaling pathway, CD8+NKG2D+ T cells are known to play a crucial role in AA, via an interleukin-15 positive feedback loop with follicular epithelial cells. In addition to JAK3, JAK1 also affects to CD8+NKG2D+ T cells by regulating interferon-γ which aggravates AA by inducing and maintaining CD8+ T cell. Thus, upadacitinib, a selective JAK1 inhibitor, which has been prescribed to 12 years and older patients with atopic dermatitis, could be expected to be effective in AA by interfering this loop through blocking JAK1 signaling. Herein, we suggest upadacitinib as a new therapeutic option for adolescent patients with severe AA coexisting with atopic dermatitis.

Keyword: Adolescent, Alopeica areata, JAK inhibitor, Upadacitinib

P-26

Two cases of alopecia totalis patients treated with tofacitinib

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Alopecia totalis (AT) is a severe subtype of alopecia areata, characterized by extensive hair loss of the scalp. Management of AT is challenging and there is no established treatment. Tofacitinib, a Janus kinase 1/3 inhibitor, is used for the treatment of rheumatoid arthritis, psoriatic arthritis, ulcerative colitis and ankylosing spondylitis. Also, it is emerging as a viable option for AT. Herein, we report two cases of AT patients treated with tofacitinib.

A 21-year-old man presented with a hair loss all over the scalp for several years. He was diagnosed with AT at another hospital and was treated with oral cyclosporine for several years. Various treatments were tried for 6 months, including oral cyclosporine, diphenylcylopropenone (DPCP) therapy, topical desoxymethasone, topical tacrolimus and topical minoxidil, but the therapeutic effect appeared slowly. Tofacitinib was added to treatment for 10 months and there was a noticeable improvement. Baricitinib was also tried instead of tofacitinib for 10 months, but it was less effective, so he switched back to tofacitinib.

A 30-year-old woman presented with a hair loss all over the scalp for 2 months. She was diagnosed with AT and started DPCP therapy with oral cyclosporine, topical desoxymethasone and minoxidil. After a month, she stopped taking oral cyclosporine because of headache, and there was follow-up loss for 4 months. After revisit, she had been treated with tofacitinib and topical minoxidil for 11 months, and the hair has grown back all over the scalp.

Tofacitinib can be an effective treatment option for AT patients, who are refractory and intolerable to conventional treatments. However, further studies are necessary to evaluate its long-term safety, effectiveness and durability in the treatment of AT.

P-27

Bullous aplasia cutis congenita: Two case reports

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Background: Aplasia cutis congenita (ACC) is characterized by congenital focal absence of skin in a newborn. Bullous aplasia cutis congenita is a clinical subtype of the condition, with only few cases are reported. Usually, patients present with a flat scar after the bullae have already reabsorbed. Treatment options include conservative treatment and surgery. The choice of treatment depends on the patient's individual circumstances.

Objective: The purpose of this paper is to introduce this uncommon type of ACC and to confirm that non-invasive treatment is sufficient for ACC patients in consideration of the patients' individual circumstances.

Methods: This paper demonstrated two cases of Bullous Aplasia cutis congenita diagnosed after birth. A 30-day-old girl presented with a 1cm tense bullae on the vertex. The patient had no other abnormalities. At the 1 month follow up, the size of the bulla had decreased and flattened. At the 6 months follow up, the lesion became pinkish atrophic scar. At the 12 months follow up, the size of the lesion had decreased into 0.5 cm. In the second case, a 60-day-old girl presented with a 2 cm flesh colored nodule on the vertex. We are planning to follow her up after 6 months.

Results: Bullous aplasia cutis congenita is a rare subtype of ACC. The patient may present with either bullous lesion or atrophic scar. No invasive treatment is needed if the lesion is small but the lesion might not grow hair for good.

Conclusion: Aplasia cutis congenita is a rare condition, but its bullous subtype is even more rare. Accurate diagnosis is mandatory and through investigation for other accompanying disorders is important. Its management depends on its size, location and associated anomalies. If a lesion is small, ACC can be sufficiently treated with regular follow-up and conservative therapy.

P-28

A case of follicular mucinosis in childhood

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Follicular mucinosis (FM), also known as alopecia mucinosa, is an uncommon inflammatory disorder. It is histopathologically characterized by mucinous material deposition in the follicular epithelium of outer root sheath and sebaceous glands. It usually presents as grouped follicular papules within erythematous patches or plaques, most commonly on head and neck area, and it can also present as localized alopecia. In the early stages, hair loss is non-scarring and potentially reversible, but in more advanced stages, hair follicles are destroyed leading to scarring alopecia. FM can be divided into two main forms: primary idiopathic form and secondary form associated with cutaneous lymphomas, most commonly mycosis fungoides. The primary form usually occurs in children and young adults. Herein, we report a case of follicular mucinosis in childhood.

A 9-year-old male patient presented with an asymptomatic hair loss patch on the vertex scalp for two months. Physical examination showed about 1cm-sized, round shaped alopecic patch on the vertex scalp with mildly palpable mass underneath the patch. A skin biopsy showed decreased hair follicles with mucin deposition and lympho-histiocytic infiltration in the dermis. Based on the clinical and histological findings, he was diagnosed with follicular mucinosis. The patient was treated with intralesional injection of triamcinolone, topical diflucortolone and topical tacrolimus for 7 months. No noticeable improvement or aggravation was seen and is undergoing periodic follow-up.

There are no clinical criteria to distinguish primary cases from cases associated with mycosis fungoides; however, most patients with limited involvement tend to have a benign course. Primary idiopathic FM is usually found in children and young adults with localized lesions, compared to secondary FM. Primary idiopathic FM mostly results in spontaneous remission within few years and does not require aggressive treatment. Although prognosis of FM in pediatric patient is favorable, long-term watchful observation is still necessary.

대한모발학회 회칙

제 1 장 총 칙

제 1 조 (명칭) 본회는 대한모발학회(The Korean Hair Research Society)라 하며 대한피부과학회의 산하학회이다.

제 2 조 (구성) 본회는 모발 및 모발과 관련된 질환을 다루고 연구하는 사람으로 구성한다.

제 3 조 (목적) 본회는 모발에 대한 연구, 교육 및 학술활동을 수행하고 회원 간의 친목을 도모함을 목적으로 한다.

제 4 조 (사업) 본회는 전항의 목적을 달성하기 위하여 다음과 같은 사업을 수행한다.

1. 총회 및 학술대회 개최
2. 초록집, 학술지 및 소식지의 발간
3. 모발 및 모발질환에 대한 연구, 교육 등 제 문제에 대한 사업
4. 국내외 관련 학술단체와의 교류 및 제휴
5. 기타 본 학회 목적 달성에 필요한 사업

제 2 장 회 원

제 5 조 (자격) 본회의 회원은 모발 관련 진료 및 연구에 종사하거나 관심을 가지고 본 학회의 취지에 찬동하는 자로서 소정의 입회 수속을 밟고 이사회의 의결을 거쳐 총회에서 인준을 받은 자로 한다.

제 6 조 (구분) 본회의 회원은 다음과 같이 구분한다.

1. 정회원: 대한피부과학회 정회원 자격자로 본 회 목적에 찬동하는 자로한다.
2. 명예회원: 모발 관련 진료 및 연구 업적이 탁월하고 본 회 발전에 공헌이 지대한 자로 한다.
3. 연구회원: 생명과학 관련분야에 종사하는 박사학위 소지자이거나 이 에 준하는 경력자로 본 회 목적에 찬동하는 자로 한다.
4. 전공의준회원: 대한피부과학회 준회원 자격자로 피부과 수련병원에서 수련 받는 전공의로 한다.
5. 연구준회원: 정회원 또는 연구회원의 지도를 받거나 생명과학 관련분야에 종사하는 연구원 또는 이에 준하는 경력자로 본 회 목적에 찬동 하는 자로 한다.

제 7 조 (의무) 회원은 본 회의 회칙, 제 규정 및 결의 사항을 준수하여야 하고, 정회원, 명예회원 및 연구회원은 회비 및 기타의 부담금을 납부할 의무가 있다.

제 8 조 (권리) 모든 회원은 본회에서 발간하는 소식지 및 학회지를 배부 받을 권리가 있으며 정회원은 선거권, 피선거권 및 기타 소정의 의결권을 가진다.

제 9 조 (제명) 본회의 의무를 준수하지 않거나 명예를 훼손한 회원은 이사회를 거쳐 총회의 인준을 받아 제명할 수 있다.

제 3 장 임 원

제 10 조 (임원) 본회는 회장, 부회장 3명 이내, 총무, 학술, 교육, 재무, 홍보, 간행정보, 기획, 의무, 대외협력, 국제관계, 무임소 상임이사, 간사, 감사 2명 및 약간 명의 고문을 두며 이사의 정원은30명 내외로 한다. 무임소 상임이사와 간사는 약간명으로 한다.

제 11 조 (선임)

1. 회장, 감사는 총회에서 선출한다.
2. 부회장, 상임이사 및 상임부이사는 회장이 위촉한다..
3. 이사는 상임이사회에서 추천하여 회장이 위촉한다.
4. 고문은 회장이 위촉한다.

제 12 조 (임기) 임원의 임기는 2년으로 하며 연임할 수 있다.
전임자의 유고로 인해 보선된 임원의 임기는 전임자의 잔여 임기로 한다.

제 13 조 (직무)

1. 회장은 본회를 대표하여 업무를 총 관리하고 총회, 이사회의 의장이 된다.
2. 부회장은 회장의 유고시 그 직무를 대행하며, 본 회 운영의 주요한 사항을 심의하고 제반 업무를 집행한다.
3. 총무이사는 본회 운영의 주요한 사항을 심의하고 제반 업무를 집행한다.
4. 학술이사는 학술 모임에 관한 업무를 집행한다.
5. 교육이사는 회원 교육에 관한 업무를 집행한다.
6. 재무이사는 재무에 관한 업무를 집행한다.
7. 홍보이사는 홍보 및 대중 매체에 다루어지는 업무를 집행한다.
8. 간행정보이사는 간행 및 정보에 관한 업무를 집행한다.
9. 기획이사는 기획에 관한 업무를 집행한다.
10. 의무이사는 의무에 관한 업무를 집행한다.
11. 대외협력이사는 대관 및 대한피부과학회에 관한 업무를 집행한다.
12. 국제관계이사는 국제적 교류에 관한 업무를 집행하다.
13. 무임소이사는 특정 사업이나 지속적 업무를 집행한다.
14. 간사는 상임이사의 업무를 보좌한다
15. 감사는 본 학회의 재산 상황과 사업과 관련된 사항을 감사하고 이를 총회에 보고한다.
16. 이사는 이사회를 구성하여 본 학회 운영의 주요 사항을 심의 의결한다.
17. 고문은 본 학회의 운영 전반에 대한 자문을 한다.

제 4 장 회 의

제 14 조 (구분) 본회에는 총회와 이사회, 상임이사회를 둔다.

제 15 조 (총회)

1. 정기총회는 연 1 회 회장이 소집한다. 단 정회원 5분의 1이상의 요구나 이사회의 요청이 있으면 임시 총회를 소집하여야 한다.
2. 총회는 출석 정회원으로 성립되고 재석 인원 과반수로 의결한다.

3. 총회는 다음과 같은 사항을 의결한다.
(1) 회장, 감사 선출
(2) 예산과 결산의 인준
(3) 회칙 개정의 인준
(4) 기타 이사회에서 제출한 사항

제 16 조 (이사회)
1. 이사회는 임원, 이사 및 부이사로 구성하며 회장이 의장이 되어 회의를 진행한다.
2. 이사회는 과반수 출석으로 성립하고 재석 인원 과반수로 의결한다.
3. 이사회는 총회에 제출하여 인준 또는 의결할 사항, 제 규정의 제정과 개정, 회원의 자격과 제명 및 기타 필요한 사항에 대하여 심의 의결 또는 인준한다.

제 17 조 (상임이사회)
1. 상임이사회는 상임이사로 구성하며 회장이 의장이 되어 회의를 진행한다.
2. 상임이사회는 이사회 및 총회에 제출하여 인준 또는 의결할 사항을 포함하여 회무 전반에 관한 사항을 심의 의결 또는 인준하여 집행한다.

제 18 조 (각종 위원회)
1. 이사회의 의결을 거쳐 각종 위원회를 둘 수 있다.

제 5 장 재 정

제 19 조 (재원) 본 회의 재원은 회비, 입회비, 찬조금 및 기타 수입금으로 한다.

제 20 조 (회계년도) 본 회의 회계연도는 매년 정기 총회 일에서 다음 정기 총회 전일까지로 한다.

제 21 조 (임기) 본 회의 수지 결산은 감사의 감사를 거쳐 차기 정기 총회에 보고한다.
회계연도 결산 후 남은 잉여금은 배분하지 않는다.

제 6 장 부 칙

제 22 조 본 회칙에 규정되지 않은 세칙은 일반 관례에 준한다.

제 23 조 본 회칙의 개정은 이사회의 심의를 거쳐 총회의 인준을 받아야 한다.

제 24 조 본 회칙은 공포일로부터 시행한다.

2004. 7. 1. 제정
2006. 5. 28 개정
2009. 5. 24 개정
2010. 10. 16 개정
2012. 6. 3 개정
2012. 10. 20 개정
2014. 10. 18 개정
2016. 10.15 개정
2018. 10. 20 개정
2020. 8. 30 개정

대한모발학회 임원명단

(2022년 6월 - 2024년 5월)

직 책	성 명	소 속
고 문	노 병 인	명지병원
고 문	박 장 규	더웰피부과의원
고 문	임 철 완	
고 문	강 진 수	강한피부과의원
고 문	김 도 원	울산대병원
고 문	심 우 영	강동경희대병원
고 문	이 원 수	원주세브란스기독병원
고 문	강 훈	은평성모병원
고 문	최 광 성	인하대병원
회 장	김 문 범	부산대병원
부 회 장	권 오 상	서울대병원
총무/국제관계이사	허 창 훈	분당서울대병원
총무간사	신 현 태	인하대병원
학술이사	유 박 린	강동경희대병원
학술간사	최 지 웅	아주대병원
학술간사	박 현 선	보라매병원
재무이사	김 상 석	강동성심병원
재무간사	김 민 성	조선대병원
교육이사	이 영	충남대병원
교육간사	이 지 혜	성빈센트병원
기획이사	이 양 원	건국대병원
기획간사	박 진	전북대병원
기획간사	김 정 은	은평성모병원
기획간사	장 용 현	경북대병원
간행정보이사	김 도 영	세브란스병원
간행정보간사	신 기 혁	부산대병원
홍보이사	원 종 현	서울아산병원
의무이사	서 수 홍	고대안암병원
대외협력이사	김 범 준	중앙대병원
무임소이사	박 병 철	단국대병원
감 사	김 효 진	인제대백병원
감 사	조 성 빈	연세세란피부과의원

이　　사	강광영(모래내피부과의원), 김기호(동아대병원), 김창덕(충남의대), 김효진(인제대부산백병원), 노윤우(맥스웰피부과의원), 민복기(올포스킨피부과의원), 박성욱(박성욱피부과의원), 박원석(아모레퍼시픽), 방철환(서울성모병원), 서구일(모델로피부과의원), 성영관(경북의대), 신정원(분당서울대병원), 오지원(연세의대), 이상훈(순천향대서울병원), 이세원(연세리앤피부과의원), 이승용(모건피부과의원), 이승호(동국대일산병원), 이인준(노바피부과의원), 임이석(테마피부과의원), 장승호(에스엔유피부과의원), 전지현(고려대구로병원), 정의현(순천향대천안병원), 조성빈(연세세란피부과), 조성환(더블유피부과의원), 조항래(오킴스피부과의원), 최유성(울산대병원), 허식(일산백병원), 황성주(털털한피부과의원)

대한모발학회 연혁

● 대한모발학회 소개 ●

대한모발학회는 1998년 10월 29일 대한피부과학회 내에 모발연구분과위원회를 설립하기 위한 발기인 모임을 가진 것을 시작으로 하여 태동이 되었습니다.

이후 모발연구분과위원회의 주도로 매년 대한피부과학회 춘추계학술대회 때마다 모발심포지엄을 개최하여 왔습니다. 이후 기존의 모발연구분과위원회를 확대 개편하여 대한모발학회를 창립하기로 하고 2004년 7월 11일 제주도 샤인빌 호텔에서 창립총회를 가졌습니다. 초대회장으로 노병인 교수를 비롯한 임원진이 선출되었고, 이후 본격적인 활동을 시작하였습니다.

현재 대한모발학회는 북미모발학회, 유럽모발학회, 일본모발학회와 어깨를 겨루는 세계적인 모발학회로 성장하게 되었으며 2006년 5월 28일 제2대 회장으로 박장규 교수, 2008년 5월 25일 제3대 회장으로 임철완 교수, 2010년 6월13일 제4대 회장으로 강진수 강한피부과 원장, 2012년 6월 3일 제5대 회장으로 김도원 교수, 2014년 5월 17일 제6대 회장으로 심우영 교수, 2016년 5월 29일 제7대 회장으로 이원수 교수, 2018년 5월 27일 제8대 회장으로 강훈 교수, 2020년 5월 30일 제9대 회장으로 최광성 교수가 선출되어 임기동안 학회를 훌륭히 이끌었습니다.

현재는 2022년 5월 29일 대한모발학회 총회에서 제10대 회장으로 김문범 교수가 선출되어 제10기 집행부를 구성하여 회무를 담당하고 있습니다.

● 학술활동 소개 ●

1. 대한모발학회 학술대회

대한모발학회 학술대회는 1년에 한 번 개최되며, 해외학자 초청강연, 특강 및 교육 강연, 각종 구연 및 포스터 연제 발표 등으로 이루어지는 대한모발학회의 꽃이라고 할 수 있습니다. 제 1차 및 제 2차 심포지엄을 거쳐 2006년 제 3차 대회 때부터 정식 학술대회의 면모를 갖추게 되었습니다.

1) 제1차 대한모발학회 심포지엄
- 2004년 11월 7일 밀레니엄 힐튼 호텔
- 탈모에서 Mesotherapy 외 9 강좌

2) 제2차 대한모발학회 심포지엄
- 2005년 6월 19일 밀레니엄 힐튼 호텔
- 탈모증의 진단 외 12강좌

3) 제3차 대한모발학회 학술대회
- 2006년 5월 28일 밀레니엄 힐튼 호텔
- 원형탈모증의 임상적 특징 외 8강좌 및 일반연제

4) 제4차 대한모발학회 학술대회
- 2007년 5월 27일 밀레니엄 힐튼호텔
- 원형탈모증의 원인과 발생기전 외 10강좌 및 일반연제

5) 제5차 대한모발학회 학술대회
- 2008년 5월 25일 밀레니엄 힐튼호텔
- 모낭과 안드로겐 외 15강좌 및 일반연제

6) 제6차 대한모발학회 학술대회
- 2009년 5월 24일 밀레니엄 힐튼 호텔
- 모낭의 발생 외 12 강좌 및 일반연제

7) 제7차 대한모발학회 학술대회
- 2010년 6월 13일 밀레니엄힐튼호텔
- New insights into hair biology 외 14 강좌 및 일반연제

8) 제8차 대한모발학회 학술대회
- 2011년 9월 18일 코엑스 회의실 Hall E (3층)
- Current and new aspects of female pattern hair loss 외 23 강좌 및 일반연제

9) 제9차 대한모발학회 학술대회
- 2012년 6월 3일 백범김구기념관
- Defining the function of genes in differentiation of hair follicle stem cells 외 13 강좌 및 일반연제

10) 제10차 대한모발학회 학술대회
- 2013년 5월 26일 백범김구기념관
- Latest news about the genetics of alopecia areata 외 18 강좌 및 일반연제

11) 8th World Congress for Hair Research
- May 14 (Wed) ~ 17 (Sat), 2014 Jeju Island, Korea

12) 제11차 대한모발학회 학술대회
- 2015년 5월 31일 가톨릭대학교 서울성모병원 지하1층 대강당
- Wnt/β-catenin signaling controls proliferation but not survival of hair follicle stem cells외 14 강좌 및 일반연제

13) 제12차 대한모발학회 학술대회
- 2016년 5월 29일 가톨릭대학교 서울성모병원 지하1층 대강당
- Clinical aspect of alopecia areata on pathogenic factors and treatment외 10 강좌 및 일반연제

14) 제13차 대한모발학회 학술대회
- 2017년 5월 28일 연세의료원 종합관 337호, 331호
- Noncoding dsRNA induces hair follicle neogenesis외 22 강좌 및 일반연제

15) 제14차 대한모발학회 학술대회
- 2018년 5월 27일 연세의료원 종합관 337호, 211호

16) 제15차 대한모발학회 학술대회
- 2019년 5월 26일(일) 연세대학교 백양누리 그랜드볼룸

17) 제16차 대한모발학회 학술대회
- 2020년 8월 30일(일) 서울드래곤시티 그랜드볼룸

18) 제17차 대한모발학회 학술대회
- 2021년 5월 30일(일) 서울 삼정호텔

19) 제18차 대한모발학회 학술대회
- 2022년 5월 29일(일) 서울 삼정호텔

2. Hair Forum

2001년 시작하여 해마다 참석하는 인원이 늘어나고 있는 Hair Forum은 모발학회 회원들 간의 격식 없는 모임입니다. 이는 자유로운 토론과 회원 상호간의 친목도모를 위하여 마련되고 있으며, 주로 진단 및 치료가 어려운 증례에 대한 토론, 그동안 연구했던 내용 발표, 해외모발학회 참관기 소개 등 다른 회원들과의 의견공유를 위해서 밤늦은 시간까지 진행됩니다. 최근에 개최된 Hair Forum 현황은 다음과 같습니다.

1) 2004년 8월 28일 대전 유성 스파피아 호텔
   모낭유래세포에서의 androgen receptor, estrogen receptor의 발현 양상 외 13건 발표

2) 2005년 8월 20일 대전 유성 스파피아 호텔
   원형탈모증 환자 400명의 임상적 고찰 외 8건 발표

3) 2006년 8월 19일 대전 유성 레전드호텔
   Acute diffuse alopecia areata 외 11건 발표

4) 2007년 8월 18일 대전 유성 리베라 호텔
   모낭유래세포의 특성분석 외 13건 발표

5) 2008년 8월 23일 대전 유성 리베라호텔
   전두탈모증 환자에서 모반 제거후 모발재생의 치료 경험 외 18 건 발표

6) 2009 대한모발학회 제8차 Hair Forum
   원형 탈모증 환자에서 스트레스 평가에 대한 예비 연구 외 9건 발표

7) 2010 대한모발학회 제9차 Hair Forum
   Differential expression of cytokines and interferone inducible genes in alopecia areata 외 16건 발표

8) 2011 대한모발학회 제10차 Hair Forum
   Retinol-binding protein 4 (RBP4) and anti-RBP4 antibody are increased in alopecia areata 외 12건 발표

9) 2012 대한모발학회 제11차 Hair Forum
   Effects of mycophenolic acid and rapamycin on hair growth 외 12건 발표

10) 2013 대한모발학회 제12차 Hair Forum
How can we enhance follicular penetration? (In vivo preliminary study) 외 13건 발표

11) 2014 대한모발학회 제13차 Hair Forum
스타볼룸털껍질(hair cuticle)이 모발색조에 미치는 영향 외 6건 발표

12) 2015 대한모발학회 제14차 Hair Forum
Experience of combination therapy with finasteride and low dose dutasteride in the treatment of male pattern hair loss 외 8건 발표

13) 2016 대한모발학회 제15차 Hair Forum

14) 2017 대한모발학회 제16차 Hair Forum

15) 2018 대한모발학회 제17차 Hair Forum
The effect of ceramide-based essence cream for the damaged hair shaft 외 8편 발표

16) 2019 대한모발학회 제18차 Hair Forum
Impact of alopecia areata on subsequent pregnancy rate: a retrospective cohort study 외 10편 발표

17) 2021 대한모발학회 제19차 Hair Forum
Identification and functional study of genes associated with pathogenesis of alopecia areata using next generation sequencing method 외 13편 발표

18) 2022 대한모발학회 제20차 Hair Forum
모발 기초 실험실 연구 시작과 준비 외 11편 발표

3. 대한피부과학회 학술대회 시 모발심포지엄 개최

대한모발학회는 대한피부과학회 산하의 모발연구분과위원회이기도 하므로, 1999년부터 매년 대한피부과학회의 춘·추계학술대회에서 모발심포지엄을 진행하고 있습니다. 2009년부터는 대한피부과학회 춘추계학술대회 시 한 번에 한해 분과심포지엄을 개최할 수 있는 대한피부과학회의 새로운 자체 규정에 따라 추계학술대회에서 모발심포지엄을 개최해 오고 있습니다.

대한모발학회 학술대회 전시 및 광고회사

전시회사

No.	회사명	연락처
1	한국오가논	010-4725-8607
2	GSK	010-8769-7709
3	JNJ 로게인	010-6630-9099
4	한국릴리	010-3911-2727
5	한국얀센	010-2356-4158
6	보령제약	010-5180-8518
7	종근당	010-3516-1683
8	한국노바티스	010-8978-5157
9	사노피-아벤티스	010-4552-6042
10	에스트라	010-4377-7319
11	한국애브비	010-3677-9201
12	JW신약	010-5152-1982
13	대웅제약	010-2551-1061
14	동구바이오제약	010-2603-1986
15	네오팜	070-7547-4754
16	동아ST	010-2050-5684

광고회사

No.	회사명	연락처
1	한국오가논	010-4725-8607
2	GSK	010-8769-7709
3	동화약품	010-9341-3516
4	코오롱제약	010-2423-6154
5	부광약품	010-4860-5957
6	한국노바티스	010-5043-2242
7	한국릴리	010-3911-2727
8	원더메드	010-3831-5269
9	씨엠에스랩	010-6560-2706
10	종근당	010-3516-1683
11	JNJ 로게인	010-6630-9099

The Korean Hair Research Society

2023년
제19차 대한모발학회
학 술 대 회

인 쇄 2023년 5월 19일
발 행 2023년 5월 28일

발행처 **대 한 모 발 학 회**

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