The 2nd Meeting of East Asia Vitiligo Association
The 1st Meeting of Japanese Society for Vitiligo

President: Ichiro Katayama
at Osaka International Convention Center

March 9 (Fri), 2018

JSV 1st meeting

2018 EAVA East Asia Vitiligo Association

Secretary General : Atsushi Tanemura
Treasurer : Yorihisa Kotobuki

Program

The 2nd Meeting of East Asia Vitiligo Association /
The 1st Meeting of Japanese Society for Vitiligo

President: Ichiro Katayama

at Osaka International Convention Center

March 9th　　9：20～17：15

JSV 1st meeting

2018 EAVA East Asia Vitiligo Association

Secretary General: Atsushi Tanemura
Treasurer: Yorihisa Kotobuki

9:20～9:30 Opening remarks

President: Ichiro Katayama

9:30～12:00 EAVA invited lecture

Chairs: Ki-Ho Kim, Tae-Heung Kim, Gwang Seong Choi, Shintaro Inoue, Ichiro Katayama

1 Phototherapy and combination therapies for vitiligo

Cheng-Che E. Lan
Department of Dermatology, Kaohsiung Medical University Hospital, and College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

2 Melanocyte Homeostasis in Skin: Destruction and Repair

Leihong Flora XIANG
Department of Dermatology, Huashan Hospital, Shanghai Medical College, Fudan University

3 Preduction for chemical leukoderma susceptibility

Ai-Young Lee
Department of Dermatology, Dongguk University School of Medicine

4 Repigmentation in a vitiligo mouse model

Tamio Suzuki[a], Yuko Abe[a], Ken Okamura[a], Yutaka Hozumi[a], Kazumasa Wakamatsu[b], Shosuke Ito[b]
[a] Department of Dermatology, Yamagata University Faculty of Medicine, Yamagata, Japan
[b] Department of Chemistry, Fujita Health University School of Health Sciences, Aichi, Japan

5 Repigmentation in vitiligo: current issues

Alain Taïeb
Dept of Dermatology, Bordeaux University and INSERM 1035, Bordeaux, France

12:00～12:10 Break

12:10〜13:00 Luncheon seminar

Chairs: Takakazu Shibata, Ichiro Katayama

6 尋常性白斑治療に於ける光線療法のポジショニング

種村篤
大阪大学皮膚科

Optimal positioning of phototherapy for vitiligo treatment

Atsushi Tanemura
Department of Dermatology Osaka University Graduate School of Medicine

7 Experience of electrical fire needle therapy combined with TheraBeam UV308 in the treatment of vitiligo

Huimin Zhang, Lili Yang
Department of Dermatology, Shuguang Hospital Affiliated to Shanghai University of Traditional Chinese Medicine

13:00〜13:10 Break

13:10〜14:15 JSV special lecture / EAVA special presentation

Chairs: Takahiro Kunisada, Masamitsu Ichihashi, Seung-Chul Lee

8 A rapid melanocyte-specific mutagenesis system for deciphering genes involved in melanocyte stem cell regulation

Masatake Osawa
Graduate School of Medicine, Gifu University, Gifu, Japan

9 A palladium and platinum nanoparticle solution activates AHR and NRF2 in keratinocytes—implications for vitiligo therapy

Gaku Tsuji
Department of Dermatology, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan

10 Bridging role of intrinsic stress and innate immunity leading to adaptive immunity as a culprit of vitiligo

Sang Ho Oh
Department of Dermatology, Severance Hospital, Cutaneous Biology Research Institute, Yonsei University College of Medicine, Seoul, Korea

11 Collaborative studies of the Korean Society of Vitiligo (KSV) and East Asia Vitiligo Association (EAVA)

Jung Min Bae
Department of Dermatology, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea, Suwon, Korea

14:15～15:00 Concurrent joint session 1

Chairs: Tamihiro Kawakami, Naoki Oiso

12 ウッドランプを用いた尋常性白斑治療効果の査定

芝田孝一
医療法人しばた皮フ科クリニック

An assessment of therapeutic effects of Wood`s lamp for vitiligo vulgaris

Takakazu Shibata
Shibata Clinic of Dermaology

13 *ADAR*遺伝子に変異を同定した遺伝性対側性色素異常症の一例

沖田朋子[1]、下村裕[1]、小泉明子[2]
[1]山口大学大学院医学系研究科皮膚科学講座、[2]ジョイ皮ふ科クリニック

A case of dyschromatosis symmetrica hereditaria caused by a mutation in the *ADAR* gene

Tomoko Okita[1], Yutaka Shimomura[1], Akiko Koizumi[2]
[1] Department of Dermatology, Yamaguchi University Graduate School of Medicine
[2] JOY Dermatology Clinic

14 ロドデンドロールユーメラニンの強い酸化促進作用は紫外線A照射により増強される

伊藤祥輔、若松一雅
藤田保健衛生大学医療科学部化学教室

The potent pro-oxidant activity of rhododendrol-eumelanin is enhanced by ultraviolet A radiation

Shosuke Ito and Kazumasa Wakamatsu
Department of Chemistry, Fujita Health University School of Health Sciences, Toyoake, Aichi, Japan

15 独自方法にて高効率大量のヒトiPS細胞由来メラノサイト産生に成功

川上民裕（聖マリアンナ医科大学　皮膚科）、伊藤宗成（東京慈恵会医科大学　皮膚科）、広部知久（放射線医学総合研究所）、神保孝一（札幌医科大学　皮膚科）

An *in vitro* established iPS cell-derived human melanocytes as the potential source for the treatment of vitiligo leukoderma

Kawakami T (Department of Dermatology, St. Marianna University School of Medicine, JAPAN), Itoh M (Department of Dermatology, Jikei University School of Medicine, JAPAN), Hirobe T (National Institute of Radiological Sciences, Department of Molecular Imaging and Theranostics, JAPAN), Jimbow K (Institute of Dermatology & Cutaneous Sciences, Sapporo, JAPAN)

16 BMP4-induced differentiation of human hair follicle NCSCs into melanocyte precursors via downregulated NRG1 & SEMA3C and upregulated WNT10A in emigrated cell culture and clinical importance of follicular unit extraction (FUE) grafting as a translational research-directed tool for a noble source of melanocyte precursors

Ho-Jin Kim[1], Tae-Hoon Kim[1], Chang-Hoon Seo[2], Young-Kwan Sung[2], Ki-Ho Kim[1]
Department of Dermatology, College of Medicine, Dong-A University, Busan, Korea[1]
Department of Immunology, School of Medicine, Kyungpook National University, Daegu, Korea[2]

15:00～16:00　Sweet seminar

Chairs: Tamio Suzuki

17　尋常性白斑と化学白斑の鑑別と治療

錦織千佳子
神戸大学皮膚科

Diagnosis and treatment for vitiligo and chemical leukoderma

Chikako Nishigori
Department of Dermatology Kobe University Graduate School of Medicine

16:00～16:15　Break

16:15～17:15　Concurrent joint session 2

Chairs: Kenshi Yamasaki, Masahiro Hayashi

18　白斑患者へのメディカルメイクアップ外来の有用性の検討

神人正寿[1]、西願三起子[1]、上中智香子[1,2]、古川福実[1]、山本有紀[1,2]
1和歌山県立医科大学皮膚科
2和歌山県立医科大学寄附講座光学的美容皮膚科

The efficacy of medical makeup in patients with vitiligo vulgaris

Masatoshi Jinnin[1], Mikiko Uede [1], Chikako Kaminaka[1,2], Fukumi Furukawa[1], Yuki Yamamoto[1,2]
[1] Department of Dermatology, Wakayama Medical University
[2] Department of Cosmetic Dermatology and Photomedicine, Wakayama Medical University

19　コレカルシフェロール内服のロドデノール白斑に対する効能；盲目的無作為化対照比較試験

渡部晶子、山崎研志、浅野雅之、神林由美、那須めい、照井仁、古舘禎騎、柿崎彩、土山健一郎、木村裕、伊藤由美子、菊地克子、相場節也
東北大学大学院医学系研究科　皮膚科学講座

The efficacy of oral cholecalciferol on rhododendrol-induced vitiligo; a blinded randomized clinical trial.

Akiko Watabe, Kenshi Yamasaki, Masayuki Asano, Yumi Kanbayashi, Mei Nasu-Tamabuchi, Hitoshi Terui, Sadnori Furudate, Aya Kakizaki, Kenichiro Tsuchiyama, Yutaka Kimura, Yumiko Ito, Katsuko Kikuchi, Setsuya Aiba
Department of Dermatology, Tohoku University Graduate School of Medicine, Sendai, Japan

20 ロドデノール誘発性脱色素斑改善例・難治例の免疫組織学的解析

安田正人、岸　史子、土岐清香、石川　治（群馬大）
荒瀬規子、楊　伶俐、高橋　彩、楊　飛、滕　蘭婷、種村　篤、片山一朗（大阪大）
林　昌浩、阿部優子、鈴木民夫（山形大）
濱田利久（岡山大）

A comparison of the immunohistochemical analyses of rhododendrol-induced leukoderma between improved and aggravated cases

Masahito Yasuda[1], Chikako Kishi[1], Sayaka Toki[1], Noriko Arase[2], Lingli Yang[2], Aya Takahashi[2], Fei Yang[2], Teng Lanting[2], Atsushi Tanemura[2], Masahito Hayashi[3], Yuko Abe[3], Toshihisa Hamada[4], Tamio Suzuki[3], Ichiro Katayama[2], Osamu Ishikawa[1]

1. Department of Dermatology, Gunma University Graduate School of Medicine
2. Department of Dermatology, Course of Integrated Medicine, Graduate School of Medicine, Osaka University
3. Department of Dermatology, Yamagata University Faculty of Medicine
4. Department of Dermatology, Okayama University Graduate School of Medicine

21 Treatment guideline for segmental vitiligo

Dong-Youn Lee
Department of Dermatology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea

22 Nutritional supportive treatment in vitiligo

Je Byeong Chae, Euyhyun Chung, Ji Young Choi, Kyoung-Chan Park
Department of Dermatology, Seoul National University College of Medicine and Seoul National University Bundang Hospital, Seongnam, Korea

17:15～18:00 JSV business meeting

18:30～19:00 Shuttle bus to the social gathering venue

19:00～21:00 Social Gathering

EAVA invited lecture

9:30 – 12:00

2018
EAVA
East Asia
Vitiligo Association

Invited lecture 1

EAVA

Cheng-Che E. Lan

9:30～12:00 （ Invited lecture 1 ）

Professor and Chair, Department of Dermatology ,
College of Medicine, Kaohsiung Medical University

Education and Position held:

1993-1999 National Cheng-Kung University, School of Medicine, Tainan, Taiwan

1999-2000 Internship in National Cheng-Kung University Hospital, Tainan, Taiwan

2000-2004 Residency in Department of Dermatology, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

2004-2007 Graduate Institute of Medicine, Kaohsiung Medical University

2007-2010 Assistant Professor, Department of Dermatology, College of Medicine, Kaohsiung Medical University

2010-2013 Associate Professor, Department of Dermatology, College of Medicine, Kaohsiung Medical University

2011-2014 Secretary, Asian Society for Pigment Cell Research

2010-2015 Founding Chair, Department of Dermatology, Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

2014-2015 Director, Center of Research and Education, Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

2014-2015 Vice Chair, Post-Baccalaureate Medicine Department, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

2015-2016 Chief, Division of Research Resource, Department of Medical Research, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung, Taiwan

2014-2017 Council member, Asian Society of Pigment Cell Research

2004- Attending physician, Department of Dermatology, Kaohsiung Medical University Hospital, Kaohsiung Medical University, Taiwan

2013- Associate Editor, Dermatologica Sinica (The official journal of Taiwan Dermatologic Association and Taiwanese Society for Investigative Dermatology)

2013- Professor, Department of Dermatology, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

2015- Physician Secretary, Office of Secretariat, Kaohsiung Medical University, Kaohsiung, Taiwan

2015- Chair, International Affairs Committee, Taiwanese Dermatological Association

2016- Councilor, International Eczema Council

2016- Chair, Department of Dermatology, Kaohsiung Medical University Hospital and College of Medicine, Kaohsiung Medical University

2017- Secretary-General, Taiwanese Photomedicine Society

2017- Treasurer, International Federation of Pigment Cell Societies

Dr. Cheng-Che Lan received his MD degree from National Cheng-Kung University Tainan, Taiwan, and PhD degree from Kaohsiung Medical University, Kaohsiung, Taiwan. Currently, Dr. Lan is the Professor and Chair of Dermatology Department, Kaohsiung Medical University Hospital and serves as the Physician Secretary at the Office of Secretariat, Kaohsiung Medical University. Dr. Lan also serves as the Treasurer for the International Federation of Pigment Cell Societies and is currently the Secretary-General of Taiwanese Photomedicine Society. He enjoys clinical practice as much as academic research.

Phototherapy and combination therapies for vitiligo

Cheng-Che E. Lan, MD., PhD

Department of Dermatology, Kaohsiung Medical University Hospital, and College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

Vitiligo is a depigmentary disorder affecting the skin and occasionally the hair. Vitiligo is not merely an aesthetic problem for the affected individual, but this condition may inflict severe negative impacts beyond skin deep. Phototherapy has been used for treating vitiligo since ancient times; however, the therapeutic responses were often unsatisfactory. Currently, narrow-band UVB (NBUVB) has emerged as the treatment of choice for treating vitiligo when phototherapy is considered. More recently, excimer laser and excimer lamp have been introduced for treating vitiligo as well. These phototherapy modalities share some similarities but also contain intricate differences regarding how they induce vitiligo repigmentation. During vitiligo treatment, different scenarios may pose clinical challenges. Combinations therapies may serve as important options to overcome these obstacles. As we explore the mechanisms involved in how phototherapy induces vitiligo repigmentation, we must also better classify the “status” of different vitiligo patients. By doing so, we will be able to offer precise treatment regimen to our patients affected with vitiligo.

Invited lecture 2

EAVA

Leihong Flora Xiang

9:30～12:00 （ Invited lecture 2 ）

Professor & Vice Chair, Department of Dermatology, Huashan Hospital, Fudan University

Research Focus

Melanocytes research and pigmentary skin disorders
Acne and sebaceous gland related diseases
Medical laser and photodynamic Therapy

I. Work experience

2011.7-till now	Vice director, Institute of Dermatology, Fudan University
2007.10-till now	Professor, Department of Dermatology, Huashan Hospital, Fudan University
2002.10-till now	Vice Chair, Department of Dermatology, Huashan Hospital, Fudan University
2001.11-2007.10	Associate Professor, Department of Dermatology, Huashan Hospital, Fudan University (formerly Shanghai Medical Universtity)
2001-2002.3	Honorary Research Associate, Division of Dermatology, Department of Medicine, Queen Mary Hospital, The University of Hong Kong
1997-2000	Attendant (senior medical officer), Department of Dermatology, Huashan Hospital, Shanghai Medical University
1992-1997	Resident (medical officer), Department of Dermatology, Huashan Hospital, Shanghai Medical University

II. Education

1986-1992	M.D, Department of Medicine, Faculty of Medicine, Shanghai Medical University
1994-1999	Ph.D, Department of Dermatology, Huashan Hospital, Shanghai Medical University
Jan-Apr,1995	Fellowship training, Cell Biology Institute, Chinese Academy of Sciences
Nov,1996	Fellowship training, cell molecular biology lab, Deparment of Dermatology, Beijing Medical University
July, 2004	Chemical peeling training program, Princeton, NJ, USA
Apr-Jun,2005	Clinical observer, Department of Dermatology, Harvard Medical School, Boston, MA, USA

III. memberships in professional societies

- ✧ Vice president (2017-2020), China Dermatology Association (CDA)
- ✧ Director, National Dermo-Laser Subspecialty Group, CDA
- ✧ Committee member, China Society of Dermatology (CSD)
- ✧ Vice director, national cosmetic dermatology group, CSD
- ✧ Vice president, China Society of Minimally Invasive Aesthetic Plastic Surgery & Dermaotology (MIAPSD)
- ✧ President of China Alliance of Acne (CAA)
- ✧ Member of Asian Acne Board (AAB), and Global Alliance of Acne (GA)
- ✧ President (2017-2020), Asian Society of Pigment Cell Research (ASPCR)
- ✧ Board member (2017-2020), International Federal of Pigment Cell Society (IFPCS)
- ✧ International fellow, American Academy of Dermatology (AAD) 2006
- ✧ International member, European Society of Dermatology and Venerology (EADV)
- ✧ Secretary in general, International Chinese Dermatologist Association (ICDA)
- ✧ section editor (2008-2012), Journal Of Dermatology Science (JDS)
- ✧ editor, Journal of Dermatology Endocrinology
- ✧ peer reviewer, Archives of Dermatology, Britich Journal of Dermtology, JAAD, etc.

Melanocyte Homeostasis in Skin: Destruction and Repair

Leihong Flora XIANG, M.D., Ph.D.

Department of Dermatology, Huashan Hospital, Shanghai Medical College, Fudan University

Melanocyte is the key cell in the pathogenesis of vitiligo. During the immune responses, melanocytes are the target to be destroyed. The melanocytes from vitiligo patients are more sensitive to oxidative stress compared to that from healthy controls. To restore the epidermal melanocytes unit is challenging, requiring the melanoblasts migration or maturation from neighboring epidermis or hair follicles. The presentation would cover genetics, oxidative stress and autoimmune to melanocyte destruction and stem cell regeneration for melanocyte repair.

Invited lecture 3

EAVA

Ai-Young Lee

9:30～12:00 （ Invited lecture 3 ）

Professor and Chair, Department of Dermatology
Dongguk University Graduate School of Medicine

Education and Training :

1975 - 1981 Seoul National University College of Medicine (B.S.)
1983 - 1985 Seoul National University (M.S.)
1986 - 1989 Seoul National University (Ph.D.)

Current and Past Professional Positions :

1986 - 1987 Research Fellow, Department of Dermatology, Tokyo University College of Medicine, Tokyo, Japan
1987 - 1991 Fellow, Department of Dermatology, Seoul National University Hospital, Seoul, Korea
1993 - 1994 Research Instructor, Department of Dermatology, Washington University School of Medicine, St. Louis, U.S.A.
2005 - present Professor and Chair, Department of Dermatology, Dongguk University Graduate School of Medicine

Society Memberships :

Korean Dermatological Association
Korean Academy of Vitiligo
Korean Atopic Dermatitis Association
Korean Society of Contact Dermatitis and Skin Allergy
Society of American Academy of Dermatology
Society of Investigative Dermatology
Asian Society for Pigment Cell Research
EAVA (East Asia Vitiligo Association)

2018 EAVA East Asia Vitiligo Association

Prediction for chemical leukoderma susceptibility

Ai-Young Lee, M.D., Ph.D.

Department of Dermatology, Dongguk University School of Medicine

Chemical leukoderma is a serious adverse reaction of chemicals, particularly phenolic or catecholic derivatives. For safety investigation of hypopigmenting chemicals, melanoma cell lines and/or melanocytes derived from donors of different ethnic background have been used. However, it may not be enough to protect susceptible individuals from chemical leukoderma. Considering that melanocytes and keratinocytes in vitiligo patients differ from those in healthy individuals, chemical-induced toxic effect would be desirable to examine in cells from vitiligo patients or have normal cells modified to reflect the defective cause could be a way to avoid the possibility of chemical leukoderma. Our study results suggest that melanocytes with S100B knockdown, keratinocytes with PI3K knockdown or Nrf2 knockdown could be helpful to predict chemical leukoderma in susceptible individuals.

Invited lecture 4
EAVA

Tamio Suzuki

9:30～12:00 （ Invited lecture 4 ）

Professor and Chair, Department of Dermatology
Yamagata University Faculty of Medicine

Education

M.D. Yamagata University School of Medicine, Yamagata, Japan
Ph.D. Yamagata University Graduate School of Medicine, Yamagata, Japan

Position and Employment

1988-1991 Postdoctoral fellow, Biochemistry, Yamagata University
1991-1992 Dermatology resident, Nagoya University Hospital
1992-1996 Staff Dermatologist, Toyohashi Municipal Hospital
1996-1998 Chief Dermatologist, Tajimi Gifu-Prefectural Hospital
1998 Staff Dermatologist, Nagoya University Hospital
1998-2001 Postdoctoral fellow, University of Colorado Health Science Center, Human Molecular Genetics Program (Prof. Spritz R.A.)
2001 Staff Dermatologist, Nagoya University Hospital
2002-2004 Assistant Professor, Department of Dermatology, Nagoya University Graduate School of Medicine
2004-2007 Associate Professor, Department of Dermatology, Nagoya University Graduate School of Medicine
2007-present Professor and Chairman, Department of Dermatology, Yamagata University Faculty of Medicine

Repigmentation in a vitiligo mouse model

Tamio Suzuki [a], Yuko Abe [a], Ken Okamura [a], Yutaka Hozumi [a],
Kazumasa Wakamatsu[b], Shosuke Ito [b]

[a] Department of Dermatology, Yamagata University Faculty of Medicine, Yamagata, Japan
[b] Department of Chemistry, Fujita Health University School of Health Sciences, Aichi, Japan

We have reported that Rhododenol® (RD), a naturally occurring phenolic compound, caused depigmentation in a hairless hk14-SCF Tg mouse with melanocytes distributed in the epidermis, indicating this mouse could be a good model for vitiligo (Abe Y, JDS 2016). After stopping the application of RD to the mouse, repigmentation from the follicles in the leukoderma was found. Here, we report results of the analyses on the repigmentation. UVB and vitamin-D ointment promoted the repigmentation, but calcineurin inhibitor ointment had no effect. We also report an expression of adhesion molecules in the epidermis during the repigmentation.

Invited lecture 5

EAVA

Alain Taïeb

9:30～12:00 （ Invited lecture 5 ）

Bordeaux University Hospitals and INSERM U1035, Bordeaux, France

Dr Taieb is Professor of Dermatology and Head of the Department of Dermatology and Pedia tric Dermatology at Bordeaux University Hospitals, former Director of the National Reference Centre for Rare Skin Disorders established in 2005, and Director since 2016 of INSERM 1035 “biotherapy of genetic diseases, inflammatory disorders and cancer”. Dr Taieb studied paedi atric dermatology at Bordeaux Children’s Hospital and is a former research fellow from the U niversity of Michigan at Ann Arbor. He serves or has served on the board of several national (Société Française de Dermatologie, Société de Recherche Dermatologique) and internationa l societies (ESPD, ESPCR, EAACI). Former president of the Société Française de Dermatologie Pédiatrique, and coordinator of the Inserm- Dermatological Learned Societies committee. E ditorial positions held at British Journal of Dermatology, Pigment Cell Melanoma Research, Melanoma Research, Experimental Dermatology. Has created and managed the European Ta sk Force on Atopic Dermatitis from 1990, and created of the Vitiligo European Task Force on Vitiligo with M Picardo in 2003; Chair of the special interest group on Vitiligo of the internati onal federation of pigment cell societies (IFPCS). Organiser of the annual course of Paediatric Dermatology, Arcachon since 1992; Organiser or co-organiser of several international meetin gs (European Soc Ped Dermatol, Bordeaux, 1990; European Soc Pigment Cell Res, Bordeaux, 1997, World Congress of Dermatology, Paris, 2002; International Symposium on Atopic Derm atitis, Arcachon 2005; International Pigment Cell Conference, Bordeaux 2011, ESDR in prepar ation 2019). Has authored more than 500 articles in peer-reviewed journals and more than 5 0 chapters in multiauthored books. Co-author of “History of Atopic Dermatitis” with Drs Wall ach and Tilles, Masson, 2004, “Neonatal Dermatology” Maloine, 2009, with Drs Enjolras, Vab res and Wallach, and “Vitiligo” (Springer, 2010, with Dr Picardo, second edition 2018). His ma jor topics of interest are pediatric dermatology, genodermatoses, atopic dermatitis, pigment cell disorders including vitiligo. He has received the Certificate of appreciation of the Internat ional League of Dermatological Societies (ILDS) in 2009 for several achievements made durin g his career and the American Skin Association award for his work on pigment cell disorders i n 2012.

2018 EAVA East Asia Vitiligo Association

Repigmentation in vitiligo: current issues

Alain Taïeb, M.D., Ph.D.

Dept of Dermatology, Bordeaux University and INSERM 1035, Bordeaux, France

Repigmentation in vitiligo is known to occur after treatment or spontaneously. It is the result of a good regenerative potential for pigment cells combined with an efficient anti-inflammatory background treatment. Known sources of melanocytes for repigmentation include the hair follicle unit and the edge of vitiligo lesions. The exact molecular and cellular mechanisms underlying the recruitment, activation, maturation, and proliferation of melanocyte precursors, culminating in vitiligo repigmentation, still remain to be fully elucidated.

In a recent retrospective study in our department, the repigmentation patterns of 109 European pediatric patients with vitiligo were analyzed, thus limiting confounding factors such as senescence of melanocyte precursors or the presence of concomitant dermatological conditions that could affect cutaneous melanocytes (Gan et al, 2016). In this cohort that received various treatment modalities, the combined (marginal +perifollicular) repigmentation pattern was the most commonly observed pattern , followed by diffuse, marginal, perifollicular patterns and lastly, a proposed new pattern, medium spotted repigmentation. Medium spotted repigmentation describes a distinct pattern of repigmentation that has been observed to occur in glabrous or minimal hair-bearing sites, such as palms, soles, ankles, and volar wrists, suggesting an alternative non follicular dermal stem cell reservoir. In these cases, the repigmentation begins as a larger spot that is not centered on a hair follicle, in contrast to perifollicular repigmentation, where pigmentation starts around the follicular ostia. Apart from age group affecting regeneration potential the type of medical treatment may have a role in influencing the pattern of repigmentation. Treatment with psoralens predominantly leads to a perifollicular pattern of repigmentation, whereas treatment with corticosteroids (topical or systemic) tends to exhibit a diffuse pattern.

In conclusion, in vitiligo research, in addition to improving background anti-inflammatory treatment, we need to investigate more in depth how to stimulate the differentiation of melanocytic stem cells in both the follicular and extrafollicular stem cell compartments.

Luncheon seminar

12:10 – 13:00

Luncheon Seminar 1
JSV / EAVA

Atsushi Tanemura

12:10～13:00 （ Luncheon Seminar 1）

Assosiate professor, Department of Dermatology,
Osaka University Graduate School of Medicine

Education and Academic degree:
April, 1991-March, 1997
Medical student, Kinki University, School of Medicine, Osaka, Japan, M.D.
April, 2001-March, 2005
Postgraduate student, Osaka University, Graduate School of Medicine, Osaka, Japan, Ph.D.

Postdoctoral fellowship:
June, 2005-May, 2007
Department of Molecular Oncology, John Wayne Cancer Institute, Santa Monica, USA

Professional experiences:

1997-1998	Resident, Department of Dermatology, Osaka University Hospital
1998-1999	Resident, Department of Dermatology, Osaka Minami National Hospital
1999-2000	Resident, Department of Plastic Surgery, Osaka University Hospital
2000-2001	Resident, Department of Plastic Surgery, Osaka National Hospital
2007-2014	Assistant professor, Department of Dermatology Osaka University Graduate School of Medicine
2014-	Associate professor, Department of Dermatology Osaka University Graduate School of Medicine

Membership of academic societies:
Japanese Society for Pigment Cell Research
Japanese Society for Investigative Dermatology
Japanese Dermatological Association
Japanese Skin Cancer Society
Japanese Cancer Association

Council member
Japanese Society for Pigment Cell Research, Japanese Society for Investigative Dermatology

Award
Poster award in the 7th World Melanoma Congress
Poster award in the 109th Annual Meeting of the Japanese Dermatological Association

尋常性白斑治療に於ける光線療法のポジショニング

種村　篤
大阪大学皮膚科

尋常性白斑の治療は外用療法・光線治療・外科的治療に大きく分かれる。光線療法に有効な紫外線波長は308nmにピークをもつエキシマレーザー（ランプ）であることが多くの研究で実証されているが、本邦のガイドラインの中で光線療法は将来的な皮膚がんの発症を懸念し16歳以上の症例に限定されている。尋常性白斑に対する光線療法の治療限界を理解し、単独療法だけでなく外用療法や外科療法の併用を行うことで治療効果を最大限に引き出すことも必要である。本講演では、光線療法の相応しいポジショニングについて概説する。

Optimal positioning of phototherapy for vitiligo treatment

Atsushi Tanemura, M.D., Ph.D.
Department of Dermatology Osaka University Graduate School of Medicine

Treatment for vitiligo is mainly consisted with topical therapy, phototherapy, and surgical therapy. Although the 308 nm monochromatic excimer light or laser (MEL) phototherapy has been reported to acquire repigmentation more effectively compared to PUVA and narrowband UVB, it is highly required to optimize the application of MEL phototherapy. According to Japanese guideline for vitiligo in 2012, UV phototherapy is restricted to vitiligo patients over 16 years old in consideration of the risk of carcinogenesis. In this presentation, I would like to show the proper positioning of UV phototherapy alone and combination with other treatments for vitiligo patients.

Luncheon Seminar 2
JSV / EAVA

Hui-min Zhang

12:10～13:00 （ Luncheon Seminar 2）

Director, Professor, Chair, Department of Dermatology, Dermatology Teaching & Research Divison, Shanghai Shuguang Hospital Affiliated with Shanghai University of Traditional Chinese Medicine

EDUCATION

1996.04-1998.12	National International Medical Center of Japan, Post Doctorate
1991.02-1996.03	Nagasaki University School of Medicine, PhD
1980.09-1985.07	Shanghai University of Traditional Chinese Medicine, Bachelor

JOB EXPERIENCE

2007.04-Present	Shanghai Shuguang Hospital Affiliated with Shanghai University of Traditional Chinese Medicine, Department of Dermatology, Dermatology Teaching & Research Divison Director, Professor, Chair
2001.04-2007.03	Japanese Ministry of Education, JAMSTEC Gene Analysis Team Leader
1999.01-2001.03	Japan Niigata University, School of Medicine, Researcher
1985.08-1990.02	Shanghai Shuguang Hospital Affiliated with Shanghai University of Traditional Chinese Medicine, Department of Dermatology, Resident Doctor

MEMBERSHIPS

Chinese Association of Integrative Medicine, China Association of Chinese Medicine, Chinese Society of Dermatology, Chinese Dermatologist Association, Shanghai Medical Association, Shanghai Association of Traditional Chinese Medicine, and World Association of Traditional Chinese Medicine.

RESEARCH INTERESTS

Pigment cell disorders, atopic dermatitis, cosmetic dermatology, clinical and experimental study of common dermatosis by traditional Chinese medicine.

Experience of electrical fire needle therapy combined with TheraBeam UV308 in the treatment of vitiligo

Huimin Zhang, Lili Yang
Department of Dermatology, Shuguang Hospital Affiliated to Shanghai University of Traditional Chinese Medicine

Vitiligo is a common hypopigmented skin disorder. The etiology and pathogenesis of vitiligo are complex. Although there are many therapies for vitiligo, the curative effects vary among different individuals, and the course of treatment is quite long. TheraBeam UV308 is one of the most affirmative and highly praised methods for vitiligo found through experimentation. With Xenon chloride gas as the source of irradiation, TheraBeam UV308 is supposed to induce apoptosis of pathologic T cells in the local lesion and promote synthesis of melanin in the discolored white patch of skin. In our clinical experiences, the radiation energy of the TheraBeam UV308 often requires gradual augmentation from the beginning minimum erythema volume of the skin. Patients should be given laser treatment 1-2 times a week during one course (over a three-month course of treatment). This therapy has a positive effect on both the progressive and stable periods of vitiligo. For intractable vitiligo, TheraBeam UV308 is often employed with other methods: in the department of dermatology in Shuguang hospital, we prefer to apply the electric fire needle technique combined with TheraBeam UV308 to treat some refractory vitiligo.

Electrical fire needle technology is an improved therapy based on traditional fire needle therapy in Chinese medicine. Fire needle therapy, originated in traditional Chinese medicine: it is a method of heating, then piercing the acupoints to treat disease or lesions. We modified this therapy by replacing the traditional fire needle, instead, using the electrical fine steel needle energized by electrode ion therapy instruments. In the treatment, a very fine electric steel needle is used for rapid and shallow acupuncture in the area of white lesions (1 time a week for a 12-week course). Almost 2 weeks after applying the electric fire needle treatment, pigment islands were observed in the hair follicle on the leukoplakia in some vitiligo patients. This suggests that the curative effect of electric fire needle is similar to that of the traditional fire needle. However, the electrical fire needle has prominent advantages, including safety, efficiency, and pain reduction compared to the previous method. We speculate that the mechanism may be related to the acupuncture and warm stimulation on the local skin nerves, releasing some neurotransmitters or endocrine factors, which result in melanocyte regeneration. This hypothesis needs to be further studied.

Electric fire needle therapy combined with TheraBeam UV308 is a superior method for the treatment of stubborn vitiligo leukoplakia. The electric fire needle effectively promotes melanin regeneration of leukoplakia. Simultaneously, TheraBeam UV308 inhibits the local immune disorder of leukoplakia, consolidates the results of color recovery, and prevents the recurrence of vitiligo while stimulating the regeneration of melanin directly. In conclusion, this combined therapy is simple, low cost, and obviously effective in stimulating the regeneration of melanin of vitiligo, and thus, has great clinical value.

JSV special lecture

13:10 – 14:15

Special Lecture 1
JSV

Masatake Osawa

13:10～14:15 （ JSV Special lecture 1 ）

Professor, Department of Regeneration and Advanced Medical Sciences, Graduate School of Medicine, Gifu University
Professor, Gifu Center for Highly Advanced Integration of Nano-sciences and Life Sciences (G-CHAIN), Gifu University

Education

1988 Faculty of Science, Chiba University, Japan. MSc.
1997 Graduate School of Medicine, Tsukuba University. Ph.D.
2002 Graduate School of Medicine, Kyoto University. Postdoc

Positions and Employment

1988-2000 Research Scientist, KIRIN Pharmaceutical Research Laboratory, Japan.
2000-2000 Senior Research Scientist, KIRIN Pharmaceutical Research Laboratory, Japan.
2000-2007 Research Scientist, RIKEN Center for Developmental Biology, Japan.
2007-2011 Assistant Professor, Department of Dermatology, Harvard Medical School, USA.
2007-2011 Assistant Biologist (Dermatology) Department of Dermatology, Massachusetts General Hospital, Boston MA, USA.
2007-2011 Assistant Biologist (Medicine) Center for Regenerative Medicine, Massachusetts General Hospital, Boston MA, USA.
2011-present Professor, Department of Regeneration and Advanced Medical Sciences, Graduate School of Medicine, Gifu University, Japan.
2017-present Professor, Gifu Center for Highly Advanced Integration of Nano-sciences and Life Sciences (G-CHAIN), Gifu University, Japan.

A rapid melanocyte-specific mutagenesis system for deciphering genes involved in melanocyte stem cell regulation

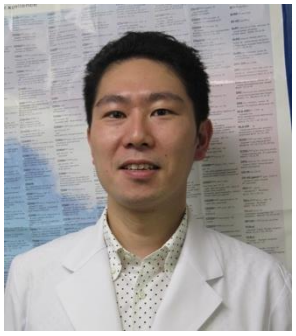
Masatake Osawa, Ph.D.
Graduate School of Medicine, Gifu University, Gifu, Japan

Melanocyte stem cells (MSCs) offers an advantageous model for studying molecular basis of stem cell regulation through molecular genetics approaches, as genetic alterations involved in the MSC regulation results in a readily identifiable pigmentary phenotype in animals. Traditionally, such gene alterations have been achieved by spontaneous mutations or gene engineering in the mouse. However, despite a number of recent methodological advances, the generation of genetically altered mice is still laborious and time-consuming, which largely hampers *in vivo* gene function assignment. Here, we have developed a new melanocyte-specific mutagenesis system, by which rapid gene functional assessment is allowed in mice in the F0 generation. Overall, our study highlights the usefulness of the mutagenesis system in understanding the molecular basis of melanocyte-related diverse biological phenomena, including stem cell regulation. Understanding the mechanisms of MSC regulations may ultimately lead to use of MSC in new treatments for various pigmentation disorders including vitiligo.

Special Lecture 2
JSV

Gaku Tsuji

13:10～14:15 （ JSV Special lecture 2 ）



Assistant professor (Lecturer), Department of Dermatology, Graduate School of Medical Sciences, Kyushu University

Educations

Degree: M.D., Ph.D.
2011: Graduated Ph.D. program, Department of Dermatology, Graduate School of Medical Sciences, Kyushu University, Japan
2002: Graduated Tottori University Faculty of Medicine, Japan

Work Experiences

2017-present: Assistant professor (Lecturer), Department of Dermatology, Graduate School of Medical Sciences, Kyushu University
2014-2016: Assistant professor, Research and Clinical Center for Yusho and Dioxin, Kyushu University Hospital
2012-2014: Visiting Fellow, Dermatology Branch in National Cancer Institute, National Institutes of Health
(Mentor: Prof. Stephen I. Katz)
2011-2012: Assistant professor, Department of Dermatology, Graduate School of Medical Sciences, Kyushu University
2007-2011: Graduate school student, Ph.D. program, Department of Dermatology, Graduate School of Medical Sciences, Kyushu University
2006-2007: Medical director, Dermatology, Kitakyushu Municipal Wakamatsu Hospital
2005-2006: Senior resident, Department of Dermatology, Kyushu University Hospital
2004-2005: Medical staff, Dermatology, Saga Prefectural Hospital Koseikan
2002-2004: Resident, Department of Dermatology, Kyushu University Faculty of Medicine

Research Interest

- Epigenetic targets for skin inflammation and skin cancer
- The roles of the aryl hydrocarbon receptor in the skin inflammation and skin cancer

A palladium and platinum nanoparticle solution activates AHR and NRF2 in keratinocytes—implications for vitiligo therapy

Gaku Tsuji, M.D., Ph.D.
Department of Dermatology, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan

ROS production has a crucial role in vitiligo development. Recently, nanomedicine such as nanoparticle-based therapy has been attempted as a novel approach for ROS-mediated pathophysiology. PAPLAL (approved in Japan), a palladium and platinum nanoparticle solution, reportedly exerts antioxidant activity *in vivo* and is effective in vitiligo therapy, but the mechanism remains unknown.

Because AHR and NRF2 regulate ROS production, we hypothesized that PAPLAL activates AHR and NRF2 in normal human keratinocytes. Electron microscopy revealed that PAPLAL was retained in the cytoplasm. PAPLAL treatment induced AHR and NRF2 activation. AHR activation negatively regulates the STAT1 pathway including the IFN-γ-CXCL10 axis, a key mechanism in vitiligo development; therefore, we examined effects of PAPLAL on the IFN-γ-CXCL10 axis. PAPLAL treatment inhibited IFN-γ-induced *CXCL10* upregulation, which was cancelled by AHR knockdown. Furthermore, PAPLAL treatment restored IFN-γ-induced *NQO1* downregulation, contributing to the attenuation of cell damage.

Finally, the effectiveness of PAPLAL treatment *in vivo* was evaluated. Topical application of PAPLAL inhibited ear swelling with reduced epidermal *IFN-γ* and *CXCL10* expression in a murine TNCB-induced contact hypersensitivity model.

Accordingly, PAPLAL inhibits the IFN-γ-CXCL10 axis via AHR activation and protects cells from damage via Nrf2 activation; these findings imply the therapeutic potential of PAPLAL in vitiligo treatment.

EAVA
special presentation

13:10 – 14:15

2018
EAVA
East Asia
Vitiligo Association

Special Presentation 1
EAVA

Sang Ho Oh

13:10～14:15 （ EAVA Special presentation 1 ）

Associate Professor, Department of Dermatology,
Yonsei University of College of Medicine

Education and Training :
1999 M.D., Yonsei University College of Medicine
2000-2004 Severance Hospital, Yonsei University Health System, Seoul, Korea
2010 Ph.D., Yonsei University College of Medicine

Current and Past Professional Positions :
2007-2009 Research Fellow, Department of Dermatology, Yonsei University of College of Medicine
2009-2010 Clinical Professor, Department of Dermatology, Yonsei University of College of Medicine
2010-2016 Assistant Professor, Department of Dermatology, Yonsei University of College of Medicine
2014-2016 Visiting Professor, Department of Dermatology, University of Pennsylvania, Philadelphia, PA
2016-present Associate Professor, Department of Dermatology, Yonsei University of College of Medicine

Awards :
2010 Clinical Research Award (Asia-Pacific Foundation of La Roche-Posay)
2010 Academic Award for Excellence (Yonsei University College of Medicine)
2013 Young Investigator Award (Yonsei University College of Medicine)

Society :
Board member, Korean Society of Investigative Dermatology
Board member, Korean Society of Photomedicine
Board member, Korean Pigment Cell Research
Board member, Korean Society of Vitiligo
Member, Korean Dermatological Association
Member, Korean Society of Dermatopathology

Bridging role of intrinsic stress and innate immunity leading to adaptive immunity as a culprit of vitiligo

Sang Ho Oh, M.D., Ph.D.
Department of Dermatology, Severance Hospital, Cutaneous Biology Research Institute, Yonsei University College of Medicine, Seoul, Korea

Vitiligo is a common depigmenting disorder resulting from the destruction of melanocytes by melanocyte antigen-specific CD8+ T Cells. While the pathogenesis of vitiligo is not yet fully understood, CD8+ T cells targeting against melanocyte antigens are known to play a pivotal role in the development of vitiligo. However, intrinsic stress of melanocyte and innate immunity can be the trigger for the transition to adaptive immunity. Therefore, it is important to understand why melanocyte are selectively targeted by CD8+ T cells and how melanocyte stress and innate immunity initiate and evoke autoimmune mechanism in vitiligo patients.
In this talk, intrinsic defect of melanocyte and melanocyte stress will be discussed as one of mechanism of vitiligo and innate immunity-associated molecules will be mentioned in association with vitiligo pathogenesis. Role of protease activated receptor 2 in association with Nrf2, a transcription factor for phase II antioxidant enzymes, a close link between antioxidant mechanism and Wnt signaling in melanocyte and a possible implication of HMGB1 in vitiligo development, which were done by our research works will be addressed.

Special Presentation 2

EAVA

Jung Min Bae

13:10～14:15 （ EAVA Special presentation 2 ）

Assistant Professor, Department of Dermatology, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea

Education and Training :

2004	M.D., College of Medicine, The Catholic University of Korea
2004–2005	Intern, Catholic Medical Center, College of Medicine, The Catholic University of Korea
2005–2009	Resident, Department of Dermatology, Catholic Medical Center, College of Medicine, The Catholic University of Korea
2015	Ph.D., Department of Dermatology, College of Medicine, The Catholic University of Korea

Current and Past Professional Positions :

2009–2012	Army Doctor, Department of Dermatology, Armed Forces Ildong Hospital
2012–2013	Clinical Fellow, Department of Dermatology, Severance Hospital, Yonsei University College of Medicine
2013–2016	Clinical Fellow, Department of Dermatology, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea
2016–2017	Clinical Assistant Professor, Department of Dermatology, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea
2017–present	Assistant Professor, Department of Dermatology, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea

Society Memberships :

Korean Dermatological Association

Korean Society of Vitiligo

East Asia Vitiligo Association

Collaborative studies of the Korean Society of Vitiligo (KSV) and East Asia Vitiligo Association (EAVA)

Jung Min Bae, M.D., Ph.D.
Department of Dermatology, St. Vincent's Hospital,
College of Medicine, The Catholic University of Korea, Suwon, Korea

The Korean Vitiligo Study Group was first established in 2004 and has developed into the Korean Society of Vitiligo (KSV), an official member organization of the Korean Dermatological Association (KDA) in 2009. KSV has held the annual meeting of KSV in spring and the open lectures for patients and their families in fall. KSV has served as a ground of communication among clinicians and researchers of vitiligo in Korea and has contributed to the awareness and understanding of the disease in Korea. KSV has helped patients with vitiligo substantially through standardization and spread of vitiligo treatment. In addition, KSV has conducted a series of nationwide collaborative studies including the provoking factors of vitiligo, prevalence and associated comorbidities of vitiligo, the involvement of T cells in early evolving segmental vitiligo, and factors affecting quality of life in patients with vitiligo. In 2016, the East Asia Vitiligo Association (EAVA) was organized by vitiligo experts in four East Asian countries, and the VESTA (Vitiligo Extent Score for a Target Area) validation study was performed as the first EAVA collaborative study. This session introduces the collaborative studies of KSV and EAVA.

Sweet seminar

15:00 – 16:00

Sweet Seminar

JSV

Chikako Nishigori

15:00～16:00 （ Sweet seminar ）

Professor and Chairman, Division of Dermatology, Department of Internal Related, Kobe University Graduate School of Medicine

Education :

1974-1980: Kobe University, School of Medicine
1983-1987: Kyoto University graduate school of Medicine, Department of Dermatology

Professional experience :

1980 : Kyoto University Hospital : Resident in Dermatology
1981-1982: Osaka Red Cross Hospital Dermatologist
1982-1983:Kyoto University Hospital
1987-1988: Department of Experimental Radiology Kyoto University ; Instructor
1988-1994 and 1995-1999: Department of Dermatology Kyoto University ; Instructor
1994-1995: Department of immunology MD Anderson Cancer Center : Postdoctoral fellow
1999-2002: Department of Dermatology, Graduate School of Medicine, Kyoto University: Assistant Professor
2002-2003: Department of Dermatology, Graduate School of Medicine, Kyoto University: Associate Professor
2003- : Division of Dermatology, Graduate School of Medicine, Kobe University: Professor and Chairman

Professional Specialty: Dermatology and Photobiology, Pigment Cell Research

Memberships:

The Japanese Dermatological Association: (council)
The Japanese Society for investigative dermatology: councilor
The Japanese Society for photomedicine and photobiology: President
The Japanese Society for pigment cell research: council
The Japanese Society for skin cancer: council
The Japanese Cancer Association
American Society for Photobilogy (council: 2008-2011)

Academic and professional Degree :

June 1980: National Examination for Medical Practitioners License #253809
December 1985 : Specialist in Dermatology (#3221) Board certification by the Japanese Dermatological Association

尋常性白斑と化学白斑の鑑別と治療

錦織千佳子
神戸大学皮膚科

白斑とは完全あるいは不完全な色素脱失を呈する病態で、先天性にも後天性にも生じる。後天性の白斑のなかでもっとも頻度の高いものは尋常性白斑であるが、その鑑別疾患すべきものとして化学白斑がある。化学白斑は、表皮メラノサイトを選択的に壊す種々の化学物質に接触あるいは吸入により曝露されることにより尋常性白斑に類似した皮膚の色素欠損を生じる。多くの化学物質が化学白斑の原因となるが、フェノール類、カテコール類、チオール類などによって生じることが多い。化学白斑と尋常性白斑のそれぞれの特徴と鑑別と治療のポイントについて述べる。美白剤の中には化学白斑をきたすものもあり、いわゆる美白効果と吹く反応とが比較的近接した用量で生じる可能性がある。また、ハイドロキノンなどの美白剤は紫外線曝露により炎症が惹起されることもある。化学白斑と尋常性白斑のそれぞれの特徴と鑑別と治療のポイントについて述べる。

Chikako Nishigori, M. D., Ph. D.

Division of Dermatology, Department of Internal Related,
Kobe University Graduate School of Medicine

Leukoderma is defined as a status that manifest complete or incomplete depigmented maculae and it may be either congenitally developed or acquired. According to the report by Professor Suzuki, appeared in JD in 2009, vitiligo vulgaris is the most frequently observed disorder among leukoderma, comprising 60 % of all the patients with leukoderma. However, sometimes it is difficult to differentiate chemical leukoderma from vitiligo vulgaris, which sometimes occur following the development of chemical leukoderma. The treatment strategy for these two conditions is different. In this lecture, the differential diagnosis and treatment strategy for vitiligo and leukoderma will be presented.

Concurrent joint session 1

14:15 – 15:00

Concurrent Joint Session 1

JSV/EAVA

ウッドランプを用いた尋常性白斑治療効果の査定

芝田孝一
医療法人しばた皮フ科クリニック

14:15～15:00　（ Concurrent 1 ）

尋常性白斑（以下白斑）の治療効果の評価は従来、医師および患者の主観に基づいたアナログな視覚的解析が基本である。近年ではヨーロッパや韓国の皮膚科医師グループによるウッドランプなどを用いた、白斑面積のデジタル解析が提唱されている。ウッドランプとは、紫外線照射装置で、365nmの長波長の紫外線を病変部の皮膚に照射する皮膚疾患の診断器具であり、疾患により特異的な蛍光を発する。演者は最近LEDを発光源とする最新のウッドランプを用いて、白斑の診断と治療効果の査定を行っているが、同時に白斑における色素再生パターンや肉眼では視認が困難な白斑の確認、残存白斑の確認により紫外線照射範囲の決定も行なっている。

An assessment of therapeutic effects of Wood`s lamp for vitiligo vulgaris

Takakazu Shibata
Shibata Clinic of Dermatology

Estimating therapeutic effects of treatment of vitiligo vulgaris is based on doctors` and/or patients` subjects. Recently European and East Asian skin doctors groups suggest digital analysis of area of vitiligo vulgaris using Wood`s lamp and so on. This time I made an assessment of therapeutic effects of Wood`s lamp for treatment of vitiligo vulgaris. Wood`s lamp is 365nm ultraviolet irradiation apparatus and very much useful for differential diagnosis of depigmented skin. Another merits of this apparatus suggests us the pattern of repigmentation, the presence of invisible vitiligo lesions and finding out remaining vitiligo.

Concurrent Joint Session 1 2
JSV/EAVA

*ADAR*遺伝子に変異を同定した遺伝性対側性色素異常症の一例

沖田朋子[1]、下村裕[1]、小泉明子[2]
[1]山口大学大学院医学系研究科皮膚科学講座、[2]ジョイ皮ふ科クリニック

14:15～15:00 （ Concurrent 1 ）

遺伝性対側性色素異常症（dyschromatosis symmetrica hereditaria：DSH）は、手背と足背を主体に色素沈着と色素脱失が斑状に出現することが特徴の常染色体優性遺伝性疾患である。今回我々は、DSHの孤発例を経験したので報告する。患者は9歳、男児。3歳頃より顔面に雀卵斑様皮疹が出現、手背足背に色素斑と白斑が混在し増加傾向にあるため、色素性乾皮症の疑いで当科を紹介受診。体幹には皮疹を認めず。光線過敏を疑うエピソードなし。両親はともに非罹患者だった。臨床症状よりDSHを疑い、患者の*ADAR*遺伝子を解析した。その結果、*ADAR*遺伝子のexon 8に既知の欠失変異c.2633_2634delCT（p.Ser878*）をヘテロ接合型で同定し、DSHと確定診断した。患者の両親の遺伝子解析は未施行だが、患者に同定された変異は*de novo*で生じたものと推測した。

A case of dyschromatosis symmetrica hereditaria caused by a mutation in the *ADAR* gene

Tomoko Okita[1], Yutaka Shimomura[1], Akiko Koizumi[2]
[1] Department of Dermatology, Yamaguchi University Graduate School of Medicine;
[2] JOY Dermatology Clinic

The patient was a 9-year-old Japanese boy. He has had freckle-like eruptions on his face since he was 3-year-old. In addition, pigmented and depigmented macules have gradually appeared on his dorsal hands and feet. He did not have any episode suggesting photosensitivity. Based on the clinical features, we considered the possibility of dyschromatosis symmetrica hereditaria, and performed direct sequencing analysis of *ADAR* gene using the patient's DNA. The results demonstrated that he carried a known heterozygous deletion mutation c.2633_2634delCT (p.Ser878*) in exon 8 of the *ADAR* gene, which was most likely a *de novo* mutation as neither parent was affected.

Concurrent Joint Session 1 3
JSV/EAVA

ロドデンドロールユーメラニンの強い酸化促進作用は紫外線A照射により増強される

伊藤祥輔、若松一雅
藤田保健衛生大学医療科学部化学教室

14:15～15:00 （ Concurrent 1 ）

ロドデンドロール（RD）は一部の消費者に白斑を惹起した。この作用の機序を解明するため、演者らはこれまでRDのチロシナーゼ酸化が細胞毒性を有するキノン酸化体を生じること、およびRD−ユーメラニンが強い酸化促進作用を持つことを示した。今回演者らは、このRD−ユーメラニンによる酸化促進作用がUVA照射により増強されるかどうかを調べた。UVA（3.5 mW/cm^2)照射により、GSH、システイン、アスコルビン酸およびNADHの酸化が2～4倍増強され、同時に過酸化水素が産生された。これらの結果は、RD−ユーメラニンが強い酸化促進作用を持ち、それがUVA照射により増強されることによりメラノサイトに対して細胞毒性を示す可能性を示唆する。

The potent pro-oxidant activity of rhododendrol-eumelanin is enhanced by ultraviolet A radiation

Shosuke Ito and Kazumasa Wakamatsu
Department of Chemistry, Fujita Health University School of Health Sciences, Toyoake, Aichi, Japan

Rhododendrol (RD) induced leukoderma in some consumers. To explore the mechanism underlying this effect, we previously showed that the oxidation of RD with tyrosinase produces cytotoxic quinone oxidation products and RD-eumelanin exerts a potent pro-oxidant activity. In this study, we examined whether this pro-oxidant activity of RD-eumelanin is enhanced by ultraviolet A (UVA) radiation. Exposure of RD to UVA (3.5 mW/cm^2) induced a two to four-fold increase in the rates of oxidation of GSH, cysteine, ascorbic acid and NADH, accompanied by the production of H_2O_2. These results suggest that RD-eumelanin is cytotoxic to melanocytes through its potent pro-oxidant activity that is enhanced by UVA radiation.

Concurrent Joint Session 1 4
JSV/EAVA

独自方法にて高効率大量のヒトiPS細胞由来メラノサイト産生に成功

川上民裕（聖マリアンナ医科大学　皮膚科）
伊藤宗成（東京慈恵会医科大学　皮膚科）
広部知久（放射線医学総合研究所）
神保孝一（札幌医科大学　皮膚科）

14:15～15:00　（ Concurrent 1 ）

採血で獲得したT細胞から作成されたヒトiPS細胞を、安全性が高い無血清で生体物質のみの独自開発した培地を使用して、ヒトメラノサイト（色素細胞）を産生することに成功した。これまでの報告より、メラノサイトへの分化誘導期間が短く、成熟度も高い。さらに細胞コロニーの植え付け、培地交換時の沈殿物添加といった独自の方法を駆使し、より高効率で、より大量のヒトiPS細胞由来メラノサイトを創り出すことに成功した。このヒトiPS細胞由来メラノサイトをヌードマウス皮膚に注射したところ、皮膚に青～黒の色素が産生され、注射量に比例して色調が濃くなった。色素が産生された注射部位に一致して、病理組織にてヒトメラノサイトが検出され、表皮にも達していた。メラノサイトが乏しくかつ反応性が低下した白斑患者皮膚に、患者自身の採血から本技術を使用して、ヒトiPS細胞由来メラノサイトを樹立し移植する治療方法へ繋がると考える。

An *in vitro* established iPS cell-derived human melanocytes as the potential source for the treatment of vitiligo leucoderma

Kawakami T (Department of Dermatology, St. Marianna University School of Medicine, JAPAN)
Itoh M (Department of Dermatology, Jikei University School of Medicine, JAPAN)
Hirobe T (National Institute of Radiological Sciences, Department of Molecular Imaging and Theranostics, JAPAN)
Jimbow K (Institute of Dermatology & Cutaneous Sciences, Sapporo, JAPAN)

Treatment of vitiligo leukoderma is still a challenging problem. Here we report our success in the *in vitro* establishment of generating iPS cell-derived human melanocytes that can be a potential source for introduction of functioning melanocytes in vitiligo leukoderma. Our melanocytes have higher proliferation rates and increased melanin production compared to melanocytes prepared by previously reported approaches. Importantly, our iPS cell-derived human melanocytes are prepared in FBS-free culture conditions that do not contain any non-physiologic agents. We designed two original methods, transferring black colonies by pipet and recovering black cell pellets from centrifuged medium, and numerous human iPS cell-derived melanocytes proliferated in gelatinous dishes coated with Matrigel after 12 days. We also succeeded in inducing melanin pigmentation in nude mouse skin *in vivo* using those human iPS cell-derived melanocytes. We propose that the method using iPS cells established from T cells in the blood of normal human volunteers could be applied clinically to develop regenerative medicine and cell therapies for various forms of human pigmentation disorders.

Concurrent Joint Session 1 5 JSV/EAVA

BMP4-induced Differentiation of Human Hair Follicle NCSCs into Melanocyte Precursors via Downregulated NRG1 & SEMA3C and Upregulated WNT10A in Emigrated Cell Culture and Clinical Importance of Follicular Unit Extraction (FUE) Grafting as a Translational Research-directed Tool for a Noble Source of Melanocyte Precursors

Ho-Jin Kim[1], Tae-Hoon Kim[1], Chang-Hoon Seo[2], Young-Kwan Sung[2], Ki-Ho Kim[1]
Department of Dermatology, College of Medicine, Dong-A University, Busan, Korea[1]
Department of Immunology, School of Medicine, Kyungpook National University, Daegu, Korea[2]

14:15～15:00 （ Concurrent 1 ）

Vitiligo is the most common acquired depigmenting disorder with a prevalence of 0.5-2.0%. The repigmentation grade was significantly lower in 2nd year of narrowband (NB) UVB phototherapy than that in 1st year. In the intractable vitiligo patients, FUE grafting is a more attractive than mini-punch grafting in repigmentation. The melanocyte stem cells (MSCs) are postulated to exist in the hair follicle (HF). To date, the exact markers for MSCs are not well known, but the neural crest stem cells (NCSCs) express their own markers and exist in the HF bulge. Although the NCSCs are basically originated from the embryonic stem cells, they can be isolated also from human HF bulge and then migrate and differentiate into the melanocyte precursors via bipotent precursor of Schwann cell and melanocyte.
After the isolation of the NCSCs from human HF bulge and an induction of differentiation along the melanocyte lineage by BMP-4 and α-MSH, we obtained SOX10+ emigrated cells from the HF bulge; SOX10+ cells proliferation were promoted by bFGF. The emigrated HF bulge cells didn't spontaneously differentiate into MITF+ cells, but into SOX2+ Schwann cell progenitors after a prolonged cultivation. A differentiation into MITF+ cells was promoted by BMP-4 and α-MSH treatment. Under the various conditions treated with 0, 10, and 50 ng/ml in the emigrated cell cultures, we performed the RNA sequencing with the cultured cell lysates and the heatmap showed downregulated NRG1 & SEMA3C and upregulated WNT10A. Furthermore, we investigated whether the cell survival and life span in HF melanocytes by observing the FUE grafting is superior to the epidermal mini-punch grafting in treatment for vitiligo.

Concurrent joint session 2

16:15 – 17:15

Concurrent Joint Session 2 1 JSV/EAVA

白斑患者へのメディカルメイクアップ外来の有用性の検討

神人正寿[1]、西願三起子[1]、上中智香子[1,2]、古川福実[1]、山本有紀[1,2]
1和歌山県立医科大学皮膚科
2和歌山県立医科大学寄附講座光学的美容皮膚科

16:15～17:15 （ Concurrent 2 ）

皮膚疾患は内臓疾患に比べて整容面で問題になりやすいが、各種治療に反応しづらく慢性に経過する場合は、患者のquality of life (QOL)が長期間損なわれることが多い。白斑や膠原病などそういった皮膚疾患に対して、メディカルメイクアップは皮膚症状を「目立たなくする」ことで、患者の精神的負担を軽減し社会生活を向上させることを目的としている。和歌山県立医科大学皮膚科では2010年から上記疾患の皮膚症状に対して、標準的治療と並行して本療法を導入してきた。
本研究では白斑患者7例に対してメディカルメイクアップを行ない、skindex16による施術前後での患者のQOL変化を解析し、他疾患患者と比較検討したので報告する。

The efficacy of medical makeup in patients with vitiligo vulgaris

Masatoshi Jinnin[1], Mikiko Uede [1], Chikako Kaminaka[1,2], Fukumi Furukawa[1], Yuki Yamamoto[1,2]

[1] Department of Dermatology Wakayama Medical University
[2] Department of Cosmetic Dermatology and Photomedicine, Wakayama Medical University

Several chronic skin diseases including vitiligo, nevus, or scars are not a life–threatening, but the disfigurement may affect the patients' mentality and impair their quality of life. Medical makeup is thought to be useful to reduce the mental burden and improve the social life.

To analyze the efficacy of medical makeup in vitiligo patients, we collected the skindex16 questionnaires before and after the makeup, and compared their results with those of other skin diseases..

Concurrent Joint Session 2
JSV/EAVA

ロドデノール誘発性脱色素斑改善例・難治例の免疫組織学的解析

安田正人、岸史子、土岐清香、石川治（群馬大）
荒瀬規子、楊伶俐、高橋彩、楊飛、滕蘭婷、種村篤、片山一朗（大阪大）
林昌浩、阿部優子、鈴木民夫（山形大）、濱田利久（岡山大）

16:15～17:15 （ Concurrent 2 ）

ロドデノール(RD)誘発性脱色素斑はRD含有化粧品の使用により、主にその使用部位に生じる脱色素斑である。多くは化粧品の使用中止により色素再生を示すが、中止後も脱色素斑が拡大する症例、使用部位以外に脱色素斑が出現する症例もみられる。改善例と難治例の病態の違いを明らかにするため、gグルタミルシステイン合成酵素(GCLC)と Eカドヘリンについて免疫組織化学的に解析を行った。グルタチオンはRDの細胞毒性を緩和することが知られており、GCLCはグルタチオン合成を促進する。改善例の脱色素斑周囲のメラノサイトではGCLC発現が増加しているのに対し、難治例では増加がみられなかった。また、Eカドヘリンは改善例、難治例ともに発現が増加しており、難治例で顕著であった。GCLCが少なくグルタチオンが十分に供給されないこと、Eカドヘリンの増加によりメラノサイトの遊走性が低下することが難治化の一因と考えられた。

A comparison of the Immunohistochemical analyses of rhododendrol-induced leukoderma between improved and aggravated cases

Masahito Yasuda[1], Chikako Kishi[1], Sayaka Toki[1], Noriko Arase[2], Lingli Yang[2], Aya Takahashi[2], Fei Yang[2], Teng Lanting[2], Atsushi Tanemura[2], Masahito Hayashi[3], Yuko Abe[3], Toshihisa Hamada[4], Tamio Suzuki[3], Ichiro Katayama[2], Osamu Ishikawa[1]

1. Department of Dermatology, Gunma University Graduate School of Medicine
2. Department of Dermatology, Course of Integrated Medicine, Graduate School of Medicine, Osaka University
3. Department of Dermatology, Yamagata University Faculty of Medicine
4. Department of Dermatology, Okayama University Graduate School of Medicine

Rhododendrol is cytotoxic to melanocytes and can induce leukoderma in regions where it is applied. Generally, leukoderma gradually recovers after discontinuation. Occasionally, lesions enlarge or new lesions develop in regions without previous applications. Improved and aggravated cases were immunohistochemically analyzed for glutamate cysteine enzyme (GCLC) and E-cadherin. GCLC promotes glutathione synthesis and might alleviate rhododendrol cytotoxicity. Improved cases had up-regulated GCLC in melanocytes around leukoderma, compared to normal control, and aggravated cases. E-cadherin on melanocytes increased in improved and aggravated cases. Low glutathione secondary to absent GCLC up-regulation, and decreased melanocytes migration ability with increased e-cadherin levels might aggravate rhododendrol-induced leukoderma.

Concurrent Joint Session 2 3
JSV/EAVA

コレカルシフェロール内服のロドデノール白斑に対する効能;盲目的無作為化対照比較試験

渡部晶子、山崎研志、浅野雅之、神林由美、那須めい、照井仁、古舘禎騎、柿崎彩、土山健一郎、木村裕、伊藤由美子、菊地克子、相場節也
東北大学大学院医学系研究科　皮膚科学講座

16:15～17:15　（ Concurrent 2 ）

ロドデンドロールは美白化粧品として使われたが、その中で白斑を誘発した患者が出現した。私たちは盲目的無作為化対照比較臨床試験でコレカルシフェロール内服のロドデンドロール白斑に対する効能を検証した。48名のロドデンドロール白斑患者を無作為に、1日あたり5,000 IUの コレカルシフェロールを5ヶ月間服用するVD群と対照群の2群に振り分けた。5ヶ月後の血中25(OH)D3濃度は、VD群(78.2±22.6 ng/ml)で対照群(21.3±8.4 ng/ml)に比較して優位に増えていた。盲目化された3人の皮膚科医による皮膚改善度評価では、VD群が対照群に比較して優位に皮膚症状が改善し、皮膚改善度は血中25(OH)D3濃度に比例していた。試験計画とコレカルシフェロール服用に起因する重篤な有害事象はなかった。この臨床試験は、コレカルシフェロールの服用がロドデンドロール白斑に対して有効性があることを示した。

The Efficacy of oral cholecalciferol on rhododendrol-induced vitiligo; a blinded randomized clinical trial.

Akiko Watabe, Kenshi Yamasaki, Masayuki Asano, Yumi Kanbayashi, Mei Nasu-Tamabuchi, Hitoshi Terui, Sadnori Furudate, Aya Kakizaki, Kenichiro Tsuchiyama, Yutaka Kimura, Yumiko Ito, Katsuko Kikuchi, Setsuya Aiba

Department of Dermatology, Tohoku University Graduate School of Medicine, Sendai, Japan

Rhododendrol (RD) was used for skin whitening cosmetic products, but some developed RD-vitiligo. We examined effects of cholecalciferol (VD) on RD-vitiligo in a blinded randomized clinical trial. Forty-eight female RD-vitiligo patients were recruited and randomized into two group: the VD group that received daily 5,000 IU cholecalciferol for 5-month and the control group. Serum 25(OH)D3 levels were significantly increased after the 5-month VD intervention (78.2±22.6 ng/ml) than control (21.3±8.4 ng/ml). The improvement scores were significantly higher in the VD group, and were positively correlated with serum 25(OH)D3 levels. This clinical trial showed benefit of cholecalciferol for RD-vitiligo.

Concurrent Joint Session 2 4
JSV/EAVA

Treatment guideline for segmental vitiligo

Dong-Youn Lee
Department of Dermatology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea

16:15～17:15 （ Concurrent 2 ）

Segmental vitiligo (SV) is a distinct type of vitiligo in terms of its clinical features, natural course, and response to treatment. It is distinguished from non-segmental vitiligo (NSV). In SV, white macules are usually localized to one segment on only one side of the body, however, in NSV white macules can occur at any body location and disease activity may persist throughout the life of the patient. Thus, the course of SV is predictable while that of NSV is unpredictable. Treatment guidelines of SV may be easier to determine than those of NSV. The treatment modalities for vitiligo largely consist of medical and surgical therapies. Medical management includes topical corticosteroids and immunomodulators, and phototherapy such as narrow-band UVB (NB-UVB) and excimer laser. If medical treatment is unsatisfactory, surgical treatments such as autologous epidermal grafting can be considered.
Based on previous reports and our experiences, we recently proposed a set of treatment guidelines in SV. Treatments such as topical corticosteroids and topical calcineurin inhibitors, as well as phototherapy, including NB-UVB and excimer laser are helpful for SV. Combination of topical treatment and phototherapy seems to be more efficient in SV. In addition, disease duration in SV seems to be important to predict the response to medical treatment. As first-line therapy, we recommend the combination of topical treatment and phototherapy to be initiated as early as possible. Our experience suggests that phototherapy is not helpful in SV patients with the majority of hairs in lesional skin being white. As second-line therapy, if medical treatment does not work, surgery such as suction-blister epidermal graft is recommended.

Concurrent Joint Session 2 5 JSV/EAVA

Nutritional supportive treatment in Vitiligo

Je Byeong Chae, Euyhyun Chung, Ji Young Choi, Kyoung-Chan Park

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

16:15～17:15 （ Concurrent 2 ）

Several studies have proposed that the pathogenesis of vitiligo is associated with the oxidative damage on melanocytes. Thus, antioxidants, which can reduce oxidative stress on melanocytes, are currently used as a supplement to vitiligo patients. A *Rhodiola sachalinesis* is known to have potent antioxidant activity. This retrospective study was conducted to evaluate the short-term outcome of the patients who took *Rhodiola* extract containing nutritional supplement, while receiving conventional treatment to vitiligo.

We reviewed the patients who met our follow up criteria among the newly diagnosed vitiligo patients. Based on the photographs of the patients, dermatologists evaluated the disease progression. Almost all patients showed good responses to treatment. This result supports the effect of antioxidant supplement of *Rhodiola* extract in the treatment of vitiligo.

Poster session

9:30 – 17:15

1 Development and Validation of the Vitiligo Extent Score for Target Areas (VESTA): an International Collaborative Study

Jung Min Bae, Department of Dermatology, The Catholic University of Korea, Korea
Sang Ho Oh, Department of Dermatology, Yonsei University College of Medicine, Korea
Hee Young Kang, Department of Dermatology, Ajou University School of Medicine, Korea
Young Wook Ryoo, Department of Dermatology, Keimyung University, Korea
Eric Lan, Department of Dermatology, Kaohsiung Medical University, Taiwan
Flora Xiang, Department of Dermatology, Fudan University, China
Ki-Ho Kim, Department of Dermatology, Dong-A University School of Medicine, Korea
Tamio Suzuki, Department of Dermatology, Yamagata University Faculty of Medicine, Japan
Ichiro Katayama, Department of Dermatology, Osaka University, Japan
Seung-Chul Lee, Department of Dermatology, Chonnam National University School of Medicine, Korea

Background: The convenient and reliable instrument to assess the treatment response of each vitiliginous patch should be introduced, even though a variety of measurements have been used in different trials. We introduced the Vitiligo Extent Score for Target Areas (VESTA) as a variant of the Vitiligo Extent Score (VES) that has been developed to assess the global vitiligo involvement.
Objectives: To develope and validate the VESTA.
Methods: A total of 55 dermatologists assessed the rates of repigmentation in 17 pairs of images consisting of vitiligo lesions pre- and post-treatment with VESTA and rough estimate, respectively. The same participants rated the same image pairs once more two weeks later. The accuracy and inter- and intra-rater reliability of VESTA were evaluated using concordance correlation coefficient (CCC) and intraclass correlation (ICC).
Results: The VESTA showed higher accuracy (CCC: 0.949, 95% CI 0.942-0.955 versus 0.896, 95% CI 0.883-0.908), higher inter-rater (ICC: 0.944, 95% CI 0.937-0.951 versus 0.943, 95% CI 0.935-0.950) and higher intra-rater (ICC: 0.928, 95% CI 0.876-0.968 versus 0.900, 95% CI 0.831-0.954) reliabilities than the rough estimate.
Conclusions: VESTA would be a promising instrument to assess the treatment response in individual lesions. It could be easily applied as a convenient and reliable tool in clinical trials of vitiligo.

2 Protective effects of phototherapy against cardiovascular and cerebrovascular events in patients with vitiligo: A population-based cohort study

Jung Min Bae, Hyuck Sun Kwon, Han Mi Jung, Ji Hae Lee, Gyong Moon Kim
Department of Dermatology, St. Vincent's Hospital, College of Medicine, The Catholic University of Korea, Suwon, Korea

Background: Narrowband UV-B (NB-UVB) phototherapy has been the mainstay of treatment for vitiligo. Although excessive UV exposure is often associated with adverse effects including premature photoaging and increased risks of skin cancers, additional benefits of UV exposure have also been raised.
Objectives: To determine the impact of NB-UVB phototherapy on the cardiovascular and cerebrovascular risks in patients with vitiligo.
Methods: A population-based cohort study was performed utilizing the Korean National Health Insurance Claims Database from 2007 to 2016. All patients with vitiligo aged ≥ 40 years were identified and categorized into four groups based on the treatment sessions of NB-UVB phototherapy (≤2, 3-49, 50-99, and ≥100) during the period. Outcomes of interests were myocardial infarction and stroke. Cox proportional hazards models were used for multivariable analyses.
Results: A total of 41,766 patients with vitiligo were enrolled. Comparing to patients with ≤2 phototherapy sessions (n = 20,497), patients with ≥100 phototherapy sessions (n = 2,765) showed significantly decreased risks of cardiovascular (HR 0.602, 95% CI 0.371-0.976) and cerebrovascular events (HR 0.817, 95% CI 0.679-0.985) after adjustment for potential confounders.
Conclusions: NB-UVB phototherapy can lower the risks of myocardial infarction and stroke in patients with vitiligo.

3 *LMNA*遺伝子の変異により発症した色素異常を伴う先天性脂肪委縮症の１例

知野剛直1)　尾山徳孝1)　宇都宮 慧1)　宇都宮 夏子1)　長谷川 稔1)　久保亮治2)
福井大学皮膚科1)
慶応大学皮膚科2)

症例：3歳、女児。出生時より全身に軽度の潮紅を認めたが自然消退した。1歳時に体幹・四肢にまだら模様の褐色斑が出現し、健康診断時に特異な顔貌を指摘された。頚部から体幹、特に腋窩や鼠径の間擦部を主体に、軽度の鱗屑を伴う指頭大の小色素斑と小脱色素斑が混在していた。家族歴に血族婚なし。毛髪や爪甲の異常、難聴、精神発達遅滞、他の全身症状は見られなかったが、低身長と顕著なるい痩、鳥様顔貌、嗄声、大腿骨の石灰化、四肢関節可動域の狭小化を認めた。皮膚生検では、表皮基底層にメラニン顆粒が僅かに増加していた。全エクソーム解析で*LMNA*遺伝子にヘテロ接合性のミスセンス変異 c.29C>T (p.T10I)を認め、de novo変異による先天性脂肪委縮症と診断した。本症は皮下脂肪の異栄養状態を伴う早老症の1亜型であり、内分泌異常や心疾患などの多彩な合併症の出現に注意しながら経過観察を行っている。

A case of congenital generalized lipodystrophy with dyschromia caused by a heterozygous recurrent mutation of *LMNA* gene

Takenao Chino1), Noritaka Oyama1), Akira Utsunomiya1), Natsuko Utsunomiya1), Minoru Hasegawa1), and Akiharu Kubo2)
Department of Dermatology, Faculty of Medical Sciences, University of Fukui, Fukui, Japan.
Departmetn of Dermatology, Keio University School of Medicine, Tokyo, Japan.

A 3-year-old girl who has had a previous history of skin rash at birth developed scaly hyper-/hypo-pigmentation on the intertriginous area of the body. She had no particular medical and family histories, but presented postnatal growth retardation, skinny body, bird-like face, hoarse voice, calcified femur, and restricted mobility of the limb joints. Skin biopsy revealed epidermal hypermelanosis alone. Whole-exome sequencing identified a de novo heterozygeous nucleotide substitution within exon 1 of *LMNA* gene (c.29C>T), predicting a p.T10I recurrent loss-of-function mutation. Her clinico-genetic presentation satisfied a diagnosis of congenital generalized lipodystrophy, a rare autosomal recessive genodermatosis characterized by lipid-storing dysfunction.

4 脱色素斑上に色素斑の新生が見られたpigmentary mosaicism

清水教子、牧野輝彦、清水忠道（富山大）

1歳4か月の女児。生下時は気づかれなかったが、生後5～6か月後より上腕の脱色素斑が明らかになった。右顔面、前頚部、右上肢、右背部にBlaschko線に一致した平坦な脱色素斑あり。家族に同様の症状なく、合併症や成長、発達の遅滞なし。当科初診の頃より顔面、上肢の露光部の脱色素斑上に雀卵斑様の色素斑が出現し、徐々に増加傾向である。pigmentary mosaicismは遺伝的モザイクを背景にBlaschko線に沿った平坦な脱色素斑あるいは色素斑を見るものの総称であり、神経、筋など多彩な合併症を伴う場合がある。皮膚症状は胎生期に生じた突然変異により色素産生能力の異なる細胞が生じるためと考えられている。通常皮疹は生涯不変とされており、脱色素斑上に色素斑が新生することは稀である。

Pigmentation within depigmented lesion of pigmentary mosaicism

Kyoko Shimizu, Teruhiko Makino, Tadamichi Shimizu
University of Toyama

A 16-months-old girl presented to our hospital with depigmented lesion of face, right upper limb and trunk along Blaschko’s lines. These skin lesions appeared after birth. Psychomotor and musculoskeletal development was normal, family history was also negative for such findings. After first visit, pigmented spot increased on the hypopigmented macules of face and upper limb. Pigmentary mosaicism is a group of multisystem disorders with cutaneous manifestations; it could be flat depigmenting plaques or spot along Blaschko’s lines. Though, skin pigmentation is usually considered lifelong invariant, however recently few cases of newly formed pigment spot on depigmenting plaque have been reported.

5 Association of Granzyme B(GZMB) gene polymorphisms and susceptibility to non-segmental vitiligo in the Korean population

Ki-Heon Jeong[1], Su-Kang Kim[2], Hyung-Jin Park[1], Min Kyung Shin[1] and Mu-Hyoung Lee[1]
[1]Department of Dermatology, [2]Kohwang Medical Research Institute and Department of Pharmacology, College of Medicine, Kyung Hee University, Seoul 130-702, Korea.

Background : Vitiligo is a pigmentary skin disorder characterized by the chronic and progressive loss of melanocytes. Genetic factors are known to play key roles in vitiligo through discoveries in association studies and family studies.

Objective : To determine whether the single nucleotide polymorphisms (SNPs) in the GZMB gene contributes to the risk of developing vitiligo.

Methods: 249 vitiligo patients and 455 healthy controls were recruited. Genotyping was performed using Fluidigm 192.24 Dynamic Array with EP1 (Fluidigm Corp., CA). We applied SNPtype assay (Fluidigm Corp., CA) which employs allele-specifically designed fluorescences (FAM or VIC) primers and a common reverse primer. We analyzed the data by the EP1 SNP Genotyping Analysis software to obtain genotype calls.

Result: Among tested six SNPs, five SNPs showed significant associations with vitiligo susceptibility. These five SNPs were located within a block of LD; the haplotypes T-A-G-T-T and C-G-C-C-C, consisting of rs2236337, rs2236338, rs11539752, rs10909625, and rs8192917, demonstrated a significant association with NSV.

Conclusion: Our results suggest that the GZMB polymorphisms are associated with the development of vitiligo.

6 ミニグラフトを施行した尋常性白斑の1例

田中隆光、鎌田昌洋、大西誉光、多田弥生
帝京大

24歳女性。家族歴、既往歴に特記事項なし。7年前から額、胸部、下腿に爪甲大までの白斑が散在し始め、徐々に範囲が拡大。最も大きい鶏卵大の白斑を足背に認めた。ステロイド外用、narrowband UVB照射するも効果不十分で、2年前からエキシマライトによる加療を開始（週1回、100mJ/cm2から増減）。開始から半年（総線量：3450 mJ）でほとんどの部位で色素再生を認めたが、両足背の白斑は、中にまだらに色素沈着を認める状態で残存した。そこで、同部位に1mmトレパンを用いて下腹部よりミニグラフトをまず3カ所施行し、術後2週間からエキシマライト（週1回、450mJ）を再開。1か月後から植皮片の周囲に紅斑が出現したため、さらに20カ所ミニグラフト、エキシマライトを施行したところ、わずかではあるが、グラフト周囲に色素沈着が出現した。四肢末梢という難治部位に対するミニグラフトの治療経過を1例報告する。

A case of repigmentation in vitiligo by mini-punch grafting

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A 24-year-old female with vitiligo on the forehead, trunk, and dorsal regions of feet, who had been refractory to topical corticosteroid and narrow band UVB, demonstrated successful repigmentation on most of lesions by means of 308-nm excimer lamp, while dorsal regions of feet were spottedly repigmented. Mini-punch grafting followed by excimer lamp therapy brought slight repigmentation around grafts to refractory vitiligo on the dorsal regions of feet. Our case suggests that mini-punch grafting followed by excimer lamp therapy should be effective for refractory regions of vitiligo such as peripheral areas of extremities.

7 Treatment of Refractory and Stable Vitiligo with Vellus Hair Punch Graft

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Vitiligo is primarily treated by non-surgical therapies, including topical and systemic steroids, topical calcineurin inhibitor and phototherapy. Several surgical techniques have been developed, such as minipunch grafting, suction blister epiderm al grafting, split-thickness skin grafting and hair follicle transplantation; and cellular graft, such as noncultured epidermal suspension grafting and cultured melanocyte grafting.
We have devised a novel method to transplant the vellus hairs minipunch graft to prevent unwanted terminal hair growt h after treatment. By using motorized follicular unit extract device, we could simply harvest vellus hair grafts from abdom inal area and make holes into the vitiligo patches for transplant.

8 東京医科大学病院皮膚科で尋常性白斑に対し局所型narrow band UVB TARNAB^{TM}照射器を用いて光線療法を実施した14症例の検討

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2014年3月-2017年12月の期間に尋常性白斑に対して局所型narrow band UVB照射器TARNAB^{TM}を用いて光線療法を実施した14例(汎発型12、分節型2)の治療効果と特徴を検討した。
平均年齢は52.2歳（17~68歳）、男7、女7例であった。白斑が改善し照射治療を終了した例は2例、色素再生するも不変になり中止した例が7例、色素再生がみられたが消褪し中止した例が1例、不変が3例、改善していたが合併症により中止した例が1例であった。罹患年数の平均は改善例で2年、不変例は9年であった。エキシマライトを実施した6例のうち3例はエキシマライトで効果なく、TARNAB^{TM}で色素再生した。刺激症状が見られた例は1例であり他の機器と比べて少ない印象であった。

Vitiligo treatment with targeted NB-UVB(TARNAB^{TM}) at Tokyo Medical University

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Fourteen patients (7 males) were enrolled between 2014 and 2017. Their mean age was 52.2 years. Twelve had non-segmental and two had segmental type vitiligo. Two patients improved sufficiently for treatment termination. Seven patients showed repigmentation without spreading. One, three, and one patient showed resolution, no change, and dropout, respectively. The average disease duration was two years for the improvement group and nine years for the no-change group. Of six patients resistant Excimer laser, three improved after using TARNAB. Only one patient experienced skin irritation, far fewer than seen with other devices.

9 Possible role of HMGB1 in melanocyte survival of vitiligo

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Background: High mobility group box 1 (HMGB1) is well-known chromatin protein that is located in the nucleus and relea sed to extracellular space. The expression of HMGB1 can be observed in almost all cells. In addition to the intranuclear fu nction, HMGB1 acts as damage-associated molecular pattern molecules (DAMPs) after it is released from cells.

Objective: In this study, we aimed to find out the function of HMGB1 on melanocyte signaling using melan-a cell line, primary human melanocytes, as well as control melanocyte cell line (PIG1) and vitiligo melanocyte cell line (PIG3V).

Methods: To evaluate effect of HMGB1 on cell viability, MTT assay was utilized. Then, apoptosis and autophagy signaling molecules (caspase-3, LC3) were confirmed by western blot analysis. Additionally, melanogenesis signaling was evaluated after HMGB1 treatment using western blot analysis, melanin contents quantification, and confocal microscopy.

Results: Cell viability was reduced as the concentration of HMGB1 increases. And HMGB1 induced the expression of cleaved caspase-3, a key signal of apoptosis, and accordingly, autophagic activity was also increased to protect apoptosis of melanocytes induced by HMGB1. In addition to cell apoptosis, the expressions of melanogenic molecules and melanin synthesis were reduced after HMGB1 treatment. Confocal microscope images of gp100 confirmed that HMGB1 promoted gp100 reduction. Melanosomes trapped within autophagosomes were observed in HMGB1-treated melanocytes by electron microscopy. Lastly, negative effect of HMGB1 on primary human melanocytes was examined in control melanocyte cell line (PIG1) and vitiligo melanocyte cell line (PIG3V) to verify the role of HMGB1 in vitiligo pathogenesis through cell viability and apoptosis markers.

Conclusion: HMGB1-induced melanocyte apoptosis could explain the pathogenesis of vitiligo.

10 低フルエンスQ-スイッチNd：YAGレーザー治療が有効であった尋常性白斑の2例

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症例1：79歳女性。初診の1年前より顔面に白斑を認め外用治療で改善がなかった。症例2：70歳女性。30代より顔面に白斑を認めていたが無治療だった。尋常性白斑は治療に難渋する疾患であり、治療に反応せず白斑の面積が50%を超える場合には脱色素療法も考慮される。本症例は2例とも顔面の白斑が70%以上を占め、健常部皮膚に対し低フルエンスQ-スイッチNd：YAGレーザーを繰り返し照射したところ濃淡差が減少し、患者の高い満足度を得ることができた。脱色素療法としてはハイドロキノンモノベンジルエーテルによる治療が広く行われており、また、最近はレーザー治療の報告も見られるが、副作用が問題となることがある。本レーザー治療は皮膚障害が少なく、ダウンタイムのない安全な治療法であり、顔面の広範囲で難治な白斑に有効であると考えた。

Depigmenting treatment with low-fluence 1064 nm Q-switched Nd:YAG laser for mostly depigmented facial vitiligo patients

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79-year-old, and 70-year-old women each of whom has pigment loss in the major parts of their faces were treated using low-fluence 1064 nm Q-switched Nd:YAG laser. We irradiated the non-depigmented facial skin at low fluence (2.3~3.0 J/cm^2) which does not cause any crust formation every or every other week. After four times irradiation, the depigmentation was clearly observed in the irradiated area and the skin color contrast became vague. After eight times irradiation, the facial skin clolr became monotonous with the patients' high satisfaction. We believe this laser therapy would be the safe and effective depigmenting treatment with vitiligo patients.

11 Comparison of 311-nm Titanium:Sapphire laser vs. 308-nm Excimer laser treatment for vitiligo: A randomized controlled non-inferiority trial

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Background: The 308-nm excimer laser (EL) has been widely used for localized vitiligo. Recently, a 311-nm Titanium:Sapphire laser (TSL) was developed for vitiligo treatment, however, controlled trials are lacking.
Objective: To compare the efficacy and safety of TSL with EL in the treatment of vitiligo.
Methods: A single-center, randomized controlled non-inferiority trial based on split-body was conducted. All participants were diagnosed with stable vitiligo between June 2016 and May 2017, and had not been treated for vitiligo in the last 6 months before the enrollment. The paired symmetric vitiligo lesions were randomized to either EL or TSL treatment groups. All lesions were treated with 308-nm EL or 311-nm TSL twice weekly for a total of 12-week period. The degree of repigmentation was assessed every 4 weeks as % from baseline by using an image analysis software, and the non-inferiority margin was set at 10%. We also monitored adverse events of both lasers.
Results: A total of 21 patients, aged 21 to 79 years, were enrolled. Seventy-four paired lesions were assigned to EL group (n = 37) or TSL group (n = 37). The mean difference between two groups (EL minus TSL) was -2.862%, and the 95% confidence interval (-6.531% to 0.807%) was lower than the non-inferiority margin. No serious adverse event was observed in both groups.
Conclusion: The present study demonstrated that 311-nm TSL was as effective as 308-nm EL in the treatment of vitiligo. TSL can be an alternative treatment option for localized vitiligo.

12 1mmミニグラフトにおけるナローバンドUVBの術後照射療法

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我々の施設では複数の尋常性白斑症例に対して1mmミニグラフト療法を行ってきたが、術後、色素脱失を認めてしまう例も認められている。今回我々は尋常性白斑に対して、1mmミニグラフトとナローバンドUVBの併用に関しての検討を行った。対象は2007年3月から2011年3月迄に当院を受診し、1mmミニグラフト療法を行い、定期的な通院が可能であった尋常性白斑患者42名（平均年齢23.4歳）である（うち4名は両方の群に属している）。照射は0.3J/cm2より開始し、週1回程度の照射で合計20回の照射を行い、6ヶ月後に1mmの植皮部からの拡大した色素の大きさについて評価を行った。結果、術後ナローバンドを併用した群17名（平均年齢20.2歳）は、併用しなかった群29名（平均年齢24.7歳）に比べて病型別（汎発型及び分節型、$p<0.05$）、年齢別（15歳以下、$p<0.01$）、部位別（額、下顎、$p<0.05$）の比較において有意差を持って色素の拡大を認めた（いずれもWilcoxon rank sum test）。

Efficacy of combination treatment with 1-mm minigraft and narrow band UVB in patients with vitiligo.

Kato H, Nakamura M, Nishida E, Morita A

1-mm mini-graft therapy is one of the effective surgical therapy for vitiligo. However some cases were intractable to treatment. We evaluated the efficacy of combination treatment with 1-mm minigraft and narrow band UVB in patients with vitiligo. Forty-two patients with vitiligo (22 males, 20 females), ranging in age from 5 to 75 years (mean, 23.4 years) were enrolled in this study. After 20 times irradiation (once a week), the sizes of repigmentation were evaluated. As a result, the size of repigmentation was larger in UVB irradiated group in subgroup analysis (type, age and location, $p<0.05$, Wilcoxon rank sum test).

13 Classification of facial vitiligo: A cluster analysis of 473 patients

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Background: Vitiligo has a substantial negative impact on quality of life in affected patients, especially those with involvement of the face. Special attention should therefore be paid to facial vitiligo.
Objective: We sought to classify facial vitiligo according to the diverse involved patterns. **Methods**: A total of 473 patients with non-segmental facial vitiligo were enrolled. A cluster analysis was performed based on facial topography using Ward's linkage of the Euclidean distance.
Results: Three distinct subtypes were determined with clinical considerations: 1) centrofacial vitiligo (72.9%) with involvement mainly of the periorbital area, nose, and perioral area; 2) panfacial vitiligo (18.0%) with involvement of almost all parts of the face; and 3) hairline vitiligo (9.1%) with exclusive involvement of the hairline. These subtypes showed differences not only in their distribution patterns, but also in their clinical features such as the age at onset, involvement of other body parts, and response to conventional treatment.
Conclusion: Centrofacial vitiligo (72.9%) was the most common type and is thought to comprise the typical facial involvement of generalized vitiligo. Panfacial vitiligo (18.0%) was a distinct subtype with onset in old age and less involvement of other body parts. Hairline vitiligo (9.1%) was another distinct subtype with onset in old age and a poor response to conventional phototherapy. Facial vitiligo comprises diverse patterns, and different clinical presentations would be associated with different etiologies, including a genetic predisposition. It would help to manage patients with different characteristics and etiologies.

14 尋常性白斑、Sutton白斑を合併したロドデノール誘発性脱色素斑の一例

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59歳女性。初診1年5ヶ月前より顔面、手背、足背に脱色素斑が出現。近医皮膚科で尋常性白斑と診断され、ステロイド外用を行っていた。経過中にロドデノール(RD)含有化粧品を使用していたことが判明し、RD誘発性脱色素斑を疑われ、当科紹介受診。塗布部位の広範囲に完全脱色素斑を認めた。脱色素斑スコア46点。化粧品中止後より色素再生が見られたが、初診7ヶ月後非塗布部位である上背部に尋常性白斑、右口角下の色素性母斑周囲にSutton白斑が出現した。ステロイド外用するも徐々に拡大し、初診3年後には胤径部に新規白斑を認め、現在も通院加療中である。RD誘発性脱色素斑は当該化粧品の塗布部位に生じる脱色素斑であり、大部分は使用中止後に色素再生が見られるが、尋常性白斑の合併例も多い。またSutton白斑は尋常性白斑を高率に合併することが知られているが、RD誘発性脱色素斑との合併例は稀有と考えたため報告する。

Rhododendrol-induced leukoderma complicated by vitiligo vulgaris and Sutton's nevus

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A 59-year-old female was referred to our hospital with leukoderma at her face, dorsum of hands and feet caused by cosmetics containing rhododendrol. The leukoderma began to improve after stopping the use of cosmetics, but, seven months later, vitiligo vulgaris and Sutton's nevus developed on her back, and on her face, respectively. Among our 101 case series of rhododendrol-induced leukoderma, 10% of the patients have the association of leukoderma considered as vitiligo. This is the only case with of the association of both Sutton's nevus and vitiligo with rhododendrol-induced leukoderma.

15 ニボルマブ投与により白斑を生じ、長期部分寛解を維持した進行期悪性黒色腫の１例

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77歳男性。5年前頃より左踵部に黒色斑を生じた。治療として皮膚悪性腫瘍切除(広汎切除)を施行し、悪性黒色腫pT2aN3M0、stageⅢc(UICC第7版 2009年)の診断となった。術後adjuvant療法を行なったが、術後2年5ヶ月でin-transit転移、及び肺転移が出現した。*BRAF*変異陽性であり、ベムラフェニブの投与を開始したが、腎転移を認め、術後3年2ヶ月目よりニボルマブの投与を開始した。投与後、転移巣はいずれも縮小・消退し、16コース目終了後より、全身に白斑が出現した。
悪性黒色腫における白斑の出現は、予後良好とする説と、予後不良とする説が存在する。現在、免疫チェックポイント阻害薬投与後に出現する免疫関連有害事象(irAE)として白斑が注目されている。irAEの数が多いほど、全生存率が改善することが知られており、特に白斑の出現は、最も全生存率の改善に寄与するirAEである。今回、ニボルマブ投与により白斑を生じ、長期にわたり部分寛解を維持した症例を経験したため、報告する。

Vitiligo caused by nivolumab in a Japanese patient with progressive malignant melanoma

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Immune checkpoint inhibitors such as nivolumab induce various kinds of immune-related adverse events, including vitiligo. Treatment-related vitiligo is sometimes observed in patients with malignant melanoma and is associated with a good clinical response to anti PD-1 antibodies. We report a case of progressive malignant melanoma with a long-term partial response and occurring vitiligo during nivolumab therapy. We describe a 77-year-old Japanese male with malignant melanoma, with in-transit and lung metastases after tumorectomy, that progressed after vemurafenib. Subsequently, he was treated with nivolumab. After 16 courses of nivolumab monotherapy, he developed vitiligo suddenly on his whole body.

16 Nivolumab治療経過中に白斑を生じ完全寛解を得られた悪性黒色腫の1例

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藤井一恭[1]、東裕子[1]、吉井典子[2]、金蔵拓郎[1]（[1]鹿児島大、[2]鹿児島市）

68歳、男性。当科初診の6ヶ月前から右内顆に徐々に増大する結節が出現し、近医皮膚科で無色素性悪性黒色腫が疑われたため当科へ紹介された。右内顆に17㎜大の赤褐色結節を認めた。CT、PET-CTで右外腸骨,右鼠径部にリンパ節転移を認めた。切除病理組織像では真皮内にメラノサイト類似腫瘍細胞が充実性胞巣状に増殖していた。悪性黒色腫T4bN2bM0 StageIIIbと診断した。術後、DTIC+IFN療法2コース後に新たに右総腸骨リンパ節転移が認められたため、Nivolumabに変更した。投与3ヶ月目から耳前部へ白斑が出現・拡大し、同時から転移性リンパ節の縮小が認められた。白斑部は次第に色素が回復してきたが、リンパ節はさらに縮小し完全寛解を維持している。免疫チェックポイント阻害薬の有害事象として白斑が知られている。Nivolumab治療経過中に白斑を生じ完全寛解を得られた悪性黒色腫の1例を報告する。

A case of Nivolumab-induced vitiligo in a patient with malignant melanoma

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A 68-year-old man presented with a 17mm reddish brown nodule on his right malleolous medialis. Elevated FDG uptake was detected in the enlarged right external iliac and inguinal lymphnodes with PET/CT scan. Tumor resection and LNs dissection were performed. Surgical specimens showed the melanoma cell proliferation in the dermis. Diagnosis of malignant melanoma (T4bN2bM0, Stage IIIb) was made. DTIC and IFN failed to prevent LN metastasis development. After switching to nivolumab, vitiligo appeared on his preauricular area in 3 months and coincided with the size reduction of metastatic LNs. This patient achieved and maintained complete remission for 10 months.

17 HO-1-associated beta catenin activation through Keap1 knockdown suggests the importance of antioxidant signaling in vitiligo pathogenesis and treatment

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Background: Nrf2-Keap1 signaling pathway protects cells against oxidative stress. Yet in recent works, its role in melanogenesis together with cell protection functions against oxidative stress has been gaining interest.

Objective: The aims of our study were to investigate the effect of Keap1 silencing in melanocyte on melanocyte survival and its associated mechanism and apply its roles in melanocytes to vitiligo pathogenesis.

Methods: Primary human epidermal melanocytes and melan-a cell line were used for this experiment. RNA sequencing was done to identify genes involved in melanocyte biology using Keap1 knockdown through siRNA techniques. And melanogenesis and the expression of melanogenesis-associated molecules were evaluated in Keap1 silenced melanocyte to examine the effects of Keap1 on melanogenesis, melanocyte growth, and related pathways.

Results: RNA-sequencing data revealed that Keap1 knockdown in primary human epidermal melanocytes (PHEMs) induced cell survival-related gene expression. Additionally, siRNA-mediated inhibition of Keap1 led to upregulation of MITF and melanogenesis-associated molecules along with Nrf2 activation in PHEMs. HO-1, a major gene that is upregulated in RNA-sequencing using Keap1-silenced PHEMs, protected melanocytes against H2O2-induced cell death and upregulated MITF and β-catenin expression. Further, increased expression of melanogenesis-associated molecules after Keap1 silencing was validated to occur through HO-1-associated β-catenin activation in a Keap1 and HO-1 double knockdown experiment. In vitiligo, lesional skins showed significantly higher expression of Keap1 compared to nonlesional skins.

Conclusion: This work suggests that Keap1 silencing in melanocytes induced melanogenesis and the expression of melanogenesis-associated molecules through HO-1-associated β-catenin activation. Antioxidant signaling by Keap1 downregulation can be important for melanocyte proliferation in vitiligo treatment.

18 ミニグラフトとエキシマライト照射療法併用にて色素再生した分節型尋常性白斑の1例

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21歳男性。15歳頃から右口角から右頬部にかけて白斑が出現。近医にて4年間エキシマライト照射や副腎皮質ステロイド外用、タクロリムス軟膏外用を行うも色素再生なく、当科初診。下顎部から右頬部に地図状の白斑を認め、病勢の進行がないため、ミニグラフトを施行することにした。第1回目のミニグラフトでは、1ミリと2ミリ生検トレパンを使用し、術後1日目よりエキシマライト照射を併用した。術後1か月頃より色素出現し、1か月半頃より色素拡大を認めた。初回手術の半年後に第2回目のミニグラフト施行し、2ミリ生検トレパンのみ使用した。術後3週頃より色素出現し、1か月頃より色素拡大を認めた。患者の満足度は良好であり、従来の治療に反応しない分節型、限局型の尋常性白斑症に対して優れた方法と考えられる。

Successful treatment of refractory segmental vitiligo with the combination of minigrafts and phototherapy .

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A 21- year- old Japanese man was diagnosed with segmental vitiligo 6 years ago. He had recieved excimer light and topical therapies for 4 years, but no repigmentation was achieved. He presented with depigmented lesions in lower right jaw and right cheek. As there had been demonstrated no progression of the lesions, we selected minigraft therapy. Immediately after minigraft therapy, we performed excimer light together. Minigrafts using 1- mm and 2-mm punch were used. Three weeks after surgery, repigmentations were developed at the recipient sites. In conclusions, we report that mini grafting is an effective surgical therapy for segmental vitiligo.

19 白斑が眼症状に先行したVogt-小柳-原田病の1例

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過去に尋常性白斑と診断されており、後に眼症を発症しVogt-小柳-原田病(VKH)と診断した1例を報告する。症例は39歳、女性。2012年頃より、両前腕、両手背、手指に対称性に脱色素斑が出現、尋常性白斑と診断され紫外線治療を受けていたが、自己中断していた。2017年5月、数日間の発熱の後、白斑が進行したため当院を受診した。白斑は四肢のみならず両側の眼瞼、頸部、体幹に汎発してみられた。また頭髪、眉毛、睫毛には白毛もみられた。同年10月初旬、両眼の視力の低下を自覚したため、眼科を受診し、両側にぶどう膜炎の所見あり、VKHと診断された。入院のうえ、ステロイドパルス治療が開始され、漿液性網膜剥離、脈絡膜剥離は消失し、視力も改善したが、白斑は改善しなかった。VKHでは眼症状の回復期に白斑を生じることが多いとされるが、本症例のように明らかな眼症状の出現に先行する症例も存在すると考えられた。

A Case of Vogt-Koyanagi-Harada Disease with Vitiligo Preceding Ocular Involvement.

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We report here a 39-year-old woman finally diagnosed with Vogt-Koyanagi-Harada disease (VKH). She suffered from symmetrical vitiligo at upper extremities since 2012. Five years later, after developing a fever for a few days, her vitiligo lesions progressed to the entire body from extremities to eyelids, neck, trunk, and white hairs at scalp, eyebrows, eyelashes. She also noticed visual loss due to uveitis on both eyes. She was diagnosed as VKH and treated with steroid pulse therapy. In VKH, vitiligo usually occurs in recovering phase after uveitis, but in this case, vitiligo was developed before ocular involvement.

20 Ongoing炎症性白斑の病理組織

中島喜美子、山本真有子、佐野栄紀（高知大）

58歳、女性。10年前より頚部から項部にかけ不整な白斑が出現、拡大傾向もありステロイド外用療法で治療中。今回、白斑病変に接する正常皮膚に瘙痒の強い浮腫性紅斑が出現、白斑のない上肢にも浮腫性紅斑が散在した。白斑部をかけた紅斑の病理組織所見で、表皮の肥厚、基底細胞の液状変性、真皮浅層血管周囲の炎症細胞浸潤を認めた。免疫染色では、CD4陽性T細胞、CD68陽性細胞、肥満細胞を既存の白斑部位より紅斑部位に多く認めた。IL-17A陽性細胞は広く真皮に発現し、その多くがCD4陽性であった。リン酸化Stat3は炎症部表皮に目立った。拡大中のongoing炎症性白斑と考えた。

Histopathological findings of ongoing, inflammatory vitiligo

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A 58-year-old woman developed vitiligo ten years ago involving neck and nape. Pruritic edematous erythema appeared in the uninvolved skin next to the vitiligo lesion. At the same time, pruritic erythematous macules developed in the forearms. Histopathological findings of erythema in her nape revealed acanthosis, liquefaction degeneration and superficial dermal infiltrates. Notably, there were increased numbers of $CD4^+$T cells, $CD68^+$ cells and mast cells in the erythematous lesion than in the pre-existing vitiligo. IL-17A positive cells are widely distributed in the dermis, many of which are also expressed in $CD4^+$ cells. Phospholyrated Stat3 was prominent in the inflammatory lesion. From these findings, this case was considered as ongoing expansion of vitiligo with inflammatory response.