

FACE THE FACTS

Understand Actinic Keratosis (AK) sun damage

AK affects ~1 in 4 people aged 60 and over¹

Accumulative years of sun damage can increase your risk of developing precancerous AK. Protecting your skin and preventing sun damage is key.²⁻⁸

Be #AKaware



SCAN TO LEARN MORE

It is important to always consult with a healthcare professional for further advice on any concerns you may have. Any decision or discussion concerning appropriate treatment for you is to be had with a healthcare professional.

1. Skin Cancer Foundation. Actinic Keratosis Overview. Available at: <https://www.skincancer.org/skin-cancer-information/actinic-keratosis/>. Date accessed: April 2022. 2. Cramer P and Stockfleth E. *Expert Opin Emerg Drugs* 2020;25(1):49-58. 3. Reinehr CPH and Bakos RM. *An Bras Dermatol* 2019;94(6):637-57. 4. Ferrández C, et al. *Actas Dermosifiliogr*. 2017;108(1):31-41. 5. Fernandez Figueras MT. *J Eur Acad Dermatol Venereol*. 2017;31 Suppl 2:5-7. 6. NHS (2020). Actinic Keratoses. Available at: www.nhs.uk/conditions/actinic-keratoses/. Date accessed: April 2022.

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20TH ANNUAL CONGRESS



THE EUROPEAN SOCIETY FOR PHOTODYNAMIC THERAPY

Paris, France

Friday 17 and Saturday 18, June 2022

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EGG - EURO-PDT 2022

11 Rue de Rouvray, 92200 Neuilly sur Seine

Email: logistics@europdt.org

Congress venue

HOTEL MERIDIEN ETOILE

81 Boulevard Gouvion St Cyr, 75017 Paris - France

Website: <https://www.marriott.com/en-us/hotels/parmd-le-meridien-etoile/overview/>



On behalf of the EURO-PDT Board I wish you all welcome. After the pandemic restrictions we are again able to meet again face to face. Virtual meetings are cost- and time-saving but it cannot replace a conventional congress.

As you see from the program, PDT research groups have been busy during the pandemic. We have been able to put together an interesting program, a thank you to Prof. Szeimies for doing the major work on putting the program together.



The present congress will have the largest number of participants ever. We thank the speakers for their active participation and we hope that you all will return home with new and interesting knowledge that will benefit your research and your patients.

Pr. Lasse R. Braathen
President EURO-PDT



Dear Colleagues

Welcome to the 20th Euro-PDT meeting in Paris.

After two years of COVID pandemia we are lucky to have a presential Euro-PDT meeting again.

This is even more true considering than 3 hours away from Paris there is a terrible war in Ukraine and we hope that this nightmare will soon come to an end as the human losses are already too numerous. This congress will give us the opportunity to update our knowledge on PDT in dermatology, to exchange ideas between PDT experts and promote future international collaborations.



We hope that the scientific program will meet your expectations and that you will also find time to enjoy our beautiful city.

We will make every effort to ensure the success of the meeting.

Wishing you a pleasant time in Paris.

Pr. Nicole Basset-Seguin
Congress President

11:00-12:30

Registration

12:30-14:00 LUNCH

14:00-14:10

Welcome and introduction

Lasse R. Braathen, Bern, Switzerland

Nicole Basset-Seguin, Paris, France

14:10-16:00

Plenary session 1**Daylight-PDT (DL-PDT) and
artificial Daylight-PDT (ADL-PDT) -
What do we know?**

Chairs: Lasse R. Braathen, Nicole Basset-Seguin

14:10

What is new from the current guidelines?**Update 2022 - C1**

Colin Morton, Stirling, Scotland

14:15

Concept of DL-PDT revisited - C2

Hans Christian Wulf, Copenhagen, Denmark

14:30

**Global verification of a model for determining
Daylight-PDT therapy dose - C3**

Ewan Eadie, Dundee, Scotland

14:45

**Combination of Daylight-PDT
with imiquimod on AK - C4**

Christophe Bedane, Dijon, France

15:00

Weather and DL-PDT - The Scottish Experience - C5

Marese O'Reilly, Dundee, Scotland

15:15

How to optimize PDT efficacy - C6

Stine Regin Wiegell, Copenhagen, Denmark

15:30

Artificial daylight: IndoorLux experience - C7

Wim Venema, Assen, Netherlands

15:45

**Decision criteria and patient characteristics
for patient-oriented treatment of field cancerization:
Standardized algorithm for personalized
treatment concepts - C8**

Wolfgang Philipp-Dormston, Cologne, Germany

16:00-16:30

PAKT project**A practical guidance to support
patient-centred treatment decisions**

Colin A. Morton, Rolf-Markus Szeimies

16:30-17:00 BREAK

17:00-18:30

Plenary session 2 DL-PDT and ADL-PDT - What is new?

Chairs: Serge Mordon, Piergiacomo Calzavara-Pinton

17:00

Future of light devices for PDT - C9

Serge Mordon, Ascain, France

17:15

PDT and melanoma: latest progress - C10

Céline Frochot, Nancy, France

17:30

Clinical evaluation of a short illumination duration (1 hour) when performing PDT of AK using the Dermalis light source - C11

Muriel Creusot, Lasne, Belgium

17:45

Sequential treatment with calcitriol and MAL DL-PDT for patients with multiple AK of the upper extremities - C12

Stefano Piaserico, Padova, Italy

18:00

Sequential Treatment of AK and Photoaging by Daylight-PDT and Injectable NASHA Gel as Skin Booster - C13

Magda Belmontesi, Vigevano, Italy

18:15

Successful treatment of palmoplantar dyshidrotic lesions of mycosis fungoides with conventional and Daylight-PDT - C14

Gloria Juan-Carpena, Alicante, Spain

20:00-22:30 GALA DINNER

08:00-09:00

Registration

09:00-10:30

Plenary session 3 PDT outside AK

Chairs: Yolanda Gilaberte, Merete Haedersdal

09:00

NMSC/AK in organ transplant recipients - a place for PDT? - C15

Eggert Stockfleth, Bochum, Germany

09:15

PDT combination therapies for AK/NMSC - C16

Thomas Dirschka, Wuppertal, Germany

09:30

Off-label indications of ALA/ MAL PDT and a possible strategy for the future - C17

Piergiacomo Calzavara-Pinton, Brescia, Italy

09:45

Occupational skin cancer and prevention - a place for PDT? - C18

Claas Ulrich, Berlin, Germany

10:00

Tinea capitis caused by *Microsporum canis* treated with MAL Daylight-PDT and ketoconazole shampooing - C19

Yolanda Gilaberte, Zaragoza, Spain

10:15

Efficacy and safety of conventional versus Daylight-PDT in children affected by multiple facial flat warts - C20

Francesco Borgia, Messina, Italy

10:30-11:00 BREAK

11:00-12:45

Plenary session 4

How to optimize PDT efficacy?

Chairs: Thomas Dirschka, Colin A. Morton

11:00

Cyclic PDT delays first onset of AK in renal transplant recipients: a 5-years randomized controlled trial with 12-months follow-up - C21

Merete Haedersdal, Copenhagen, Denmark

11:15

PDT combination therapies for Aesthetic Indications - C22

Rolf-Markus Szeimies, Recklinghausen, Germany

11:30

Optimizing treatment of acne with PDT to achieve long-term remission and reduce side effects - C23

Ann-Marie Wennberg Larkö, Gothenburg, Sweden

11:45

Product design in the development of a home-based Daylight-PDT service - C24

Paul O'Mahoney, Dundee, Scotland

11:52

Fluorescence and skin temperature: their relationship in PDT - C25

Paul O'Mahoney Dundee, Scotland

12:00

Artificial Daylight-PDT with the Multilite-System-office - based experience - C26

Sven Quist, Mainz, Germany

10

12:08

Light textiles PDT on other indications (Paget's disease, folliculitis) - C27

Henri Abi Rached, Lille, France

12:15

Clinical versus punch biopsy assessment of BCC subtype and thickness within a PDT-setting - C28

Erik Moerk, Trondheim, Norway

12:23

Photodynamic treatment of BCCs using a biphasic activation protocol consisting of red light followed by IPL delivered with mechanical pressure - C29

Robert Stephens, Rouse Hill, Australia

12:30

MAL DL-PDT for AK on face, scalp & related field cancerization with different pretreatments (curettage vs. keratolytics) - an interventional study conducted in Italy - C30

Stefano Caccavale, Napoli, Italy

12:37

Molecular markers of response in the treatment of AK with Daylight-PDT - C31

Dario De Perosanz-Lobo, Madrid, Spain

12:45-13:30

Round table discussion

Which treatment is best for our patients with field cancerization?

Moderator: Lasse R. Braathen

Participants : Yolanda Gilaberte, Nicole Basset-Seguín, Ann-Marie Wennberg, Thomas Dirschka

13:30-13:45

Award ceremony and closing remarks

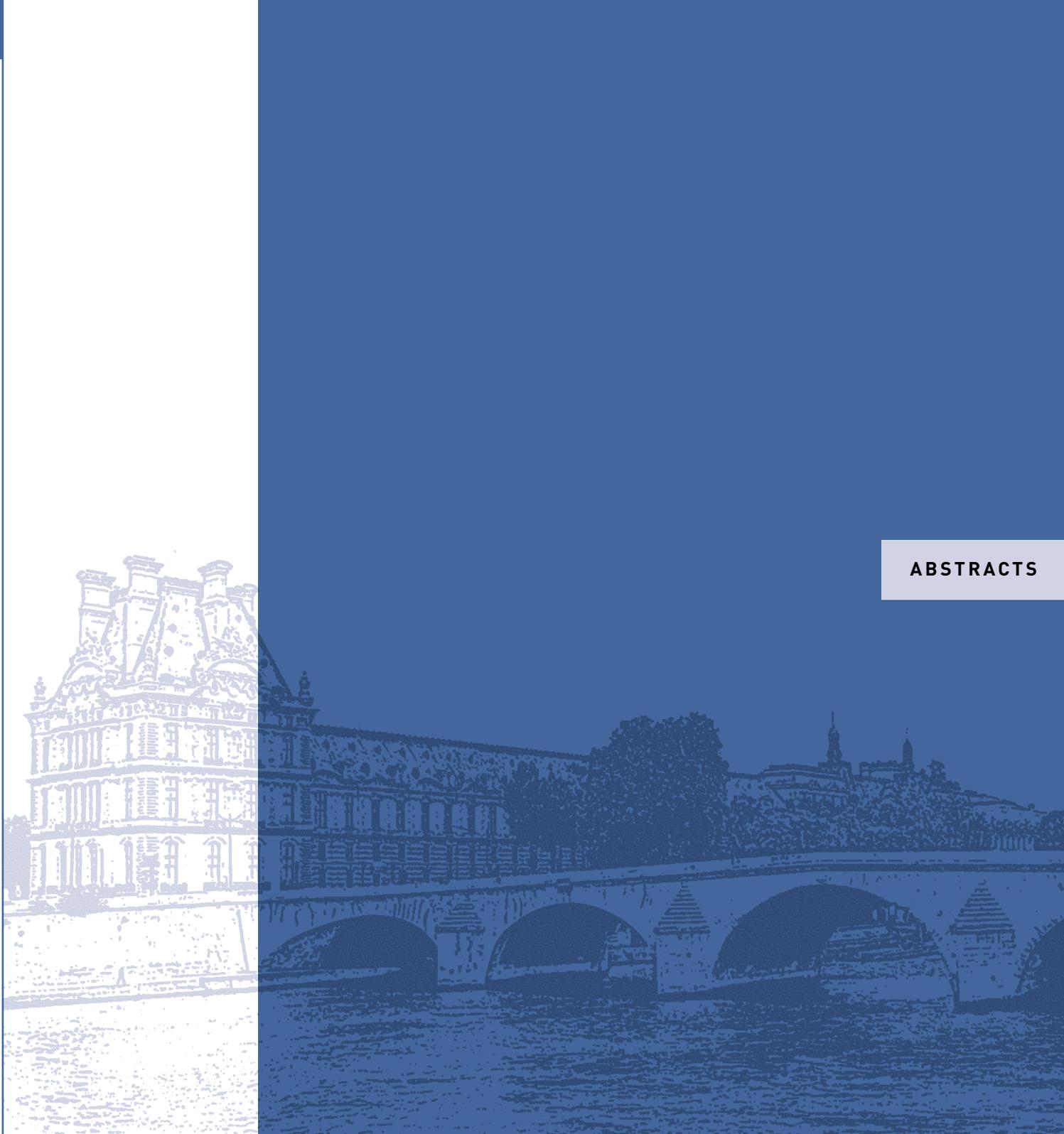
Lasse R. Braathen, Rolf-Markus Szeimies, Colin A. Morton

13:45-14:45 LUNCH

11



AK	Actinic Keratosis
ALA	Aminolevulinic Acid
BCC	Basal Cell Carcinoma
BD.....	Bowen's disease
nBCC	Nodular BCC
sBCC.....	Superficial BCC
CR	Complete response
Fx	Fractional
DL-PDT.....	Daylight-PDT
LED.....	Light-Emitting Diode
MAL	Methyl Aminolevulinate
NASHA	Non-Animal Stabilized Hyaluronic Acid
NMSC	Non-Melanoma Skin Cancer
PDT.....	Photodynamic Therapy
PpIX.....	Protoporphyrin IX
SCC	Squamous Cell Carcinoma
SD	Standard Deviation
VAS.....	Visual Analogic Scale



Colin Morton, Stirling
Stirling, Scotland

What is new from the current guidelines? Update 2022

Evidence-based guidelines identify the indications and presentations where we can expect best response to the use of topical PDT. Updated joint EDF/Euro-PDT guidelines cover current cancer indications and detail the different methods of PDT delivery including daylight and conventional (C A Morton, R-M Szeimies, N Basset-Seguín, et al. Part 1. J Eur Acad Dermatol Venereol 2019;33:2225-38) Part 2 of these guidelines cover emerging indications (C A Morton, R-M Szeimies, N Basset-Seguín, et al. Part 2. J Eur Acad Dermatol Venereol 2020;34:17-29). In the UK, comprehensive guidelines on PDT from the British Association of Dermatology (Wong TH, Morton CA, Collier N, et al, Br J Dermatol 2019;180:730-739) have been NICE-approved and include recommendation for the first time to consider combining PDT with other modalities for certain indications in particular hyperkeratotic actinic keratoses.

Hans Christian Wulf
Copenhagen, Denmark

Concept of DL-PDT revisited

Background: Classic PDT involves superficial curettage, application of 5-aminolevulinic acid (ALA) or methyl aminolevulinate (MAL), and occlusion for 3 hours followed by red LED illumination. Side effects include: unpleasant/painful pre-treatment with curettage (bleeding, oozing); stinging during ALA/MAL application; patients crowding the clinic while waiting; severe pain during illumination; 1-2 weeks inflammation.

Methods and results: Adjustments to avoid side effects when treating face and scalp AK showed no loss of efficacy when omitting curettage, thus removing bleeding, oozing, and stinging from ALA/MAL application. Skin occlusion becomes redundant during the wait. Pain is avoided by illuminating PpIX during its formation, either outdoors by daylight or indoors by lamps of appropriate wavelengths. Areas to be treated are illuminated from 30 min to 2.5 hours after ALA/MAL application.

Discussion: Daylight illumination may take place at home in the garden or similar, preventing the patients from crowding the clinic.

Daylight PDT reduces

Key Words:

AK, Gentle PDT, PDT, Protoporphyrin IX, Side effects

Ewan Eadie**Dundee, United Kingdom**Paul O'Mahoney, Marina Khazova, Ethan LaRochelle,
Brian Pogue, Sally H Ibbotson**Global verification of a model
for determining Daylight-PDT dose**

In 2016 we published research demonstrating how the measurement of outdoors daylight illuminance could be converted to a Daylight-PDT dose (<https://doi.org/10.1111/bjd.15146>). Illuminance is easily measured by inexpensive luxmeters, which when combined with our model provides useful dPDT dose information to aid planning or monitoring of treatment. To facilitate use of the model we developed a website (<https://omahoney.shinyapps.io/daylightpdt/>).

The original model was verified against spectral irradiance data from the UK but its accuracy outside the UK had not been determined. We therefore tested the model against spectral irradiance measurements from four global locations in North America, South America, Europe and Asia. The model had a median deviation from gold-standard spectral irradiance measurements of $\pm 10\%$, and a maximum deviation of $\pm 20\%$. These results indicate that our model could be applied globally to provide an indication of daylight photodynamic dose.

Key Words:

Illuminance, Lux, Daylight, PDT, AK

Christophe Bedane**Dijon, France****Combination of Daylight-PDT
with imiquimod on AK**

Abstract not communicated.

Marese O'Reilly
 Dundee, Scotland
 Sally Ibbotson

Weather and DL-PDT - The Scottish Experience

Daylight PDT (dPDT) is an effective, well-tolerated treatment for actinic keratoses (AK). We established a successful dPDT service in Scotland in 2013 and discovered that, despite our climate, this is a feasible therapy between April and September, with temperature rather than light being the limiting factor for successful treatment delivery. We report our experience of hospital-initiated daylight PDT in 186 patient treatment courses. The majority of patients (61%) achieved clearance or at least a good response and had high levels of satisfaction, reporting a preference for dPDT compared to other AK therapies (83%). We also established an innovative home-based dPDT service in 2021, enabling patients to self-treat in their home environment and results from this first year showed similarly high rates of efficacy (66%) and patient satisfaction. dPDT is an important treatment option for Scottish patients with AK and can be effectively delivered through both hospital-initiated and entirely home-based self-treatment approaches.

Key Words:
 AK, Daylight-PDT

Stine Regjn Wiegell
 Copenhagen, Denmark

How to optimize PDT efficacy

Photodynamic therapy (PDT) is a highly effective treatment of actinic keratoses (AKs) especially for thin AKs in the face and scalp. However, cure rates are significantly reduced for hyperkeratotic and acral AKs and improvement in PDT efficacy is therefore needed.

Physical pretreatments (superficial curettage, ablative Fx laser, micro-needling and micro-dermabrasion) have all been shown to increase prodrug uptake. Chemical pretreatment with either topical calcitriol and diclofenac has been shown to enhance PpIX production by promoting keratinocyte differentiation or blocking PDT induced immunosuppression. Oral vitamin D has been shown to enhance PDT efficacy and oral nicotinamide may have similar effect.

Combination of PDT with other standard AK treatments such as imiquimod and 5-fluorouracil have also shown improved cure rates of AKs by additive effects through different mechanisms of action.

Pretreatment and combination treatments with PDT are often more effective than PDT alone. However, these treatments need to significantly improve the efficacy with treatment protocols still being simple and with few side effects to be applicable in daily clinical practice.

Key Words:
 PDT, AK, PpIX production,
 Vitamin D, 5-fluorouracil, Imiquimod

Wim Venema
Zuidhorn, Netherlands
Julia Zwertbroek

Artificial daylight: IndoorLux experience

Daylight-PDT is a proven simple yet effective treatment for mild to moderate AK. Temperature and illumination are limiting factors leading to increased interest in artificial light sources.

In the Wilhelmina Hospital Assen we installed a light room using the IndoorLux system producing a light spectrum between 570 and 630nm mimicking part of daylight.

We performed a small prospective study in 28 patients with mild to moderate AK. Results were compared with a recent daylight study using the AKASI score. Comparing mean improvement of AKASI score no clear difference in outcome was observed. Due to the limited sample size no statistics were performed.

VAS score for pain was very low and the treatment had a high convenience.

PDT using artificial daylight with the IndoorLux system offers results comparable to regular daylight PDT yet offering increased usability.

Key Words:

Daylightroom, Artificial daylight, AK

Wolfgang G. Philipp-Dormston
Cologne, Germany

Decision criteria and patient characteristics for patient-oriented treatment of field cancerization. Standardized algorithm for personalized treatment concepts

Introduction: Actinic keratosis (AK), which frequently affects larger skin areas (field cancerization), is characterized by chronic course. Patient-oriented approaches to identify targeted therapies improve treatment outcomes.

Objectives: Development of patient-oriented decision criteria for field-directed AK treatment options in patients with field cancerization.

Materials and methods: Decision criteria and patient typology were deduced on nominal respectively structured multilevel consensus process. The developed algorithm was then subsequently applied for the systematic evaluation of field-directed AK therapies. Results: Patient-relevant criteria for the treatment decision included (among others): effectiveness, selectivity, safety, duration of therapy, cosmesis, patient preference and comorbidities. With regard to the decision criteria and patient types in which field therapy was the treatment of choice, daylight photodynamic therapy notably met the requirement profile.

Conclusion: Definition of patient- and therapy-related decision criteria allows a systematic yet practice-oriented approach to classify specific treatment options and to derive individual treatment decisions.

Key Words:

AK, Patient profiles, Quality of life, Patient typology, Treatment options

Serge Mordon
Ascain, France

Future of light devices for PDT

Effective treatment delivery in photodynamic therapy (PDT) requires coordination of the light source, the photosensitizer, and the delivery device appropriate to the target tissue. Each photosensitizer displays a specific absorption curve where usually several peaks can be observed. Consequently, it is important to select light sources with a spectral emission fitting this absorption curve. For this reason, white light seems more appropriate for PpIX since its 5 absorption peaks are in the visible spectrum. The choice of light source depends on the target location, its size and its geometry. If the light source is appropriately designed, a reproducible light dosimetry is achieved leading to a reproducible treatment and consequently optimal clinical results. Consequently, treatment of AKs on the face and scalp require light source delivering a constant intensity over all the illuminated field. At last, design of light source must also consider its practical use in private dermatology practice.

Key Words:

PDT, Light Source, Absorption, Photosensitizer

Céline Frochot
Nancy, France

Batoul Dhairi, Serge Mordon, Nadira Delhem, Laurent Mortier

PDT and melanoma: latest progress

Melanoma is a very aggressive malignant tumor that arises from melanocytes, pigimentary cells found predominantly in the skin.

Although melanoma counts for only 4% of skin cancer cases, it causes 79% of all skin cancer related deaths. Photodynamic therapy (PDT) may represent a promising treatment for melanoma patients, in addition to the immunotherapies already used in the context of metastatic melanoma.

Even if the clinical application of PDT is still being debated, some clinical outcomes have been published and will be described. We will also focus on both the advantages of PDT (non-invasiveness, limited side effects) and resistance mechanisms during PDT (melanosomal trapping, melanin pigment that acts like a physical shield against PDT illumination, enhanced oxidative stress defense....). Finally, suggestions to overcome melanoma resistance to PDT will be proposed (near infrared absorbing photosensitizers, targeted PDT, two-photon or X-ray excitation, combination with hyperthermia and sonoPDT, immune stimulation strategies, depigmentation strategies, combination with autophagy inhibitors or melanogenesis inhibitors).

Key Words:

Melanoma, PDT, Photosensitizer

Muriel Creusot
Lasne, Belgium
Serge Mordon

Clinical evaluation of a short illumination duration (1 hour) when performing PDT of AK using the Dermaris light source

Background: Photodynamic therapy (PDT) using daylight as the photoactivating light source (DL-PDT) is an effective treatment for actinic keratosis (AK). Among the artificial daylight sources, the Dermaris (Surgiris, Croix, France) is specially designed for SDL-PDT of AK. To perform the PDT session, a long duration (2.5 hours) and low-intensity light exposure (2.9 mw/cm²) is used. This long duration is considered as a major limitation by both the patient and the dermatologist.

Objectives: The paper aims to report the clinical outcomes of SDL-PDT using the Dermaris in patients treated for AK lesions of the scalp at our medical dermatology center using only one hour low-intensity light exposure.

Methods: Thirty patients (19 males, 11 females), mean age: 72.8 ± 9.3, with phototype 1 (11 patients), with phototype 2 (17 patients) and phototype 3 (2 patients), with grade I-II AK of the scalp were treated with a drug-light interval (DLI) of 10 minutes and a light exposure of 1 hours. The primary endpoint was the rate of patients with less than two AK lesions at six months post-treatment. Secondary endpoints included scores of pain, erythema, crusts, discomfort and during or/and post the treatment.

Results: In total, 293 AK were treated. For Grade I lesion, one session was required for complete clearance. 13 patients with Grade II lesion required a second session at 3 months for complete clearance. Six months following treatment, the cure rate of patients was 93%. The median pain score was 0 out of 10. Erythema was observed in 28 patients and lasted 3 days, crusts were seen in 19 patients. Discomfort was as mild or less in more than 97% of patients.

Conclusions: the shortening of the exposure time to one hour does not modify the efficacy of the SDL-PDT using the Dermaris. This observation is in agreement with recent published data demonstrating that that PDT can be performed successfully with half the illumination time used in daylight PDT today. Besides, this clinical study confirmed that SDL-PDT is an effective and nearly painless treatment with minimal side effects for patients with AK lesions of the scalp.

Key Words:
PDT, DL-PDT, SDL-PDT

Stefano Piaserico
Padova, Italy
Antonella Piccioni, Carlota Gutiérrez García-Rodrigo,
Cristina Pellegrini, Maria Concetta Fargnoli

Sequential treatment with calcitriol and MAL DL-PDT for patients with multiple AK of the upper extremities

Background: Cure rates of PDT are significantly reduced for AKs on acral sites. This intra-individual, randomized trial aimed to compare the sequential regimen of topical calcitriol and methyl aminolevulinate (MAL) daylight-PDT (CAL-DL-PDT) versus topical placebo and MAL-DL-PDT (P-DL-PDT) on acral AKs.

Methods: Adult patients with multiple all grade AKs of the upper extremities were treated with daily topical calcitriol or placebo for 14 days followed by 2 sessions of DL-MAL-PDT.

Results: Forty-two patients were enrolled and 36/42 completed the study. After 3 months, the overall lesion response rate and patient \geq 75 % clearance rate of CAL-DL-PDT were higher, albeit not significantly, than P-DL-PDT (64.04 % vs 57.93 %; $p = 0.354$). When grade II and grade III AKs were grouped, the response rate was significantly higher for CAL-DL-PDT (55.24 %) group than for P-DL-PDT group (39.58%) ($p = 0.038$). Mild erythema and itch were reported after calcitriol application. No significant difference was observed in pain intensity. Local skin reactions occurred more frequently on the CAL-DL-PDT-treated sides.

Key Words:
Daylight-PDT, Calcitriol, AKs, Acral

Magda Belmontesi
Vigevano, Italy

Sequential Treatment of AK and Photoaging by Daylight-PDT and Injectable NASHA Gel as Skin Booster

Actinic keratosis (AK) is a common intraepithelial atypical proliferation of keratinocytes that might progress into invasive SCC.

Method: We have tested the treatment using sequential sessions of PDT in daylight and injectable non-animal hyaluronic acid gel skin boosters (NSBs) on 4 patients with AK on head and neck. Two further sessions of NSBs were scheduled, 30 and 60 days after the first injection, to improve the overall skin quality.

Results: All patients showed a clinically significant improvement of the overall face skin quality, photoaging signs, and fine wrinkles; all patients were satisfied of the treatment outcome. None of the patients reported any side effect related to the treatment.

The combination of two minimally invasive treatments showed to be effective giving the almost complete resolution of AK and a clear improvement of skin texture, with noticeable reduction of the clinical signs of skin photoaging, meeting patient's expectations.

Key Words:

AK, NASHA gel, PDT in daylight

Gloria Juan-Carpa
Alicante, Spain
Juan Carlos Palazón-Cabanes, Mar Blanes-Martínez

Successful treatment of palmoplantar dyshidrotic lesions of mycosis fungoides with conventional and Daylight-PDT

Treatment of Mycosis Fungoides (MF) may be challenging, especially when lesions are located in difficult or sensitive areas. A 58-year-old woman presented with a 5-year history of MF affecting more than 10% of the skin surface, including the palms and soles.

Palmoplantar plaques were unresponsive to different treatments, such as topical corticosteroids, oral acitretin, topical PUVA, oral methotrexate, interferon alpha, oral PUVA, 5% topical imiquimod and topical mechlorethamine. Only PDT achieved a long-lasting response with no recurrences to date. Conventional photodynamic therapy (cPDT) under regional anesthetic block attained complete response on the palms. However, it had to be interrupted on the soles because of intense pain. Daylight photodynamic therapy (DL-PDT) was then tried on this location. The sessions took place at home. After removing dirtiness of soles, the patient had to apply chemical sunscreen followed by 16 % MAL and expose the affected skin to natural daylight for two hours. She completed a cycle of four sessions at one-week intervals, and a second cycle three months later. This treatment achieved complete response with good tolerance.

There are only a few reports in the literature about the use of cPDT on palmoplantar lesions of MF. However, to our knowledge, this is the first communication of a case of mycosis fungoides affecting the soles successfully treated with Daylight-PDT.

Key Words:

Conventional PDT, Daylight-PDT, Mycosis Fungoides, Palms, Soles

NMSC/AK in organ transplant recipients – a place for PDT?

During the past decades, the population of chronic immunosuppressed patients has increased worldwide. Solid organ transplantation has successfully been performed for a variety of end-stage organ diseases and the development of new and potent immunosuppressive drugs has led to a prolonged long-term survival after transplantation. Prevention of allograft rejection and maintenance of organ function are achieved by effective systemic immunosuppression. However, side effects associated with immunosuppression medication occur and may affect survival in these patients. Skin cancer is the most common neoplasm in organ transplant recipients (OTR) and may show an aggressive course with potential lethal outcome. Therefore, prevention, early recognition, and effective treatment of cutaneous malignancies are of special importance in these patients.

MAL PDT has been the most comprehensively studied therapy for treating AK in OTRs (as a monotherapy, MAL c-PDT, DL-PDT and in combination). MAL c-PDT and DL-PDT have proven to be effective treatments for AK in OTRs (with high lesion response and a superior patient satisfaction compared to cryotherapy). MAL PDT has higher AK lesion response and is better tolerated by patients vs imiquimod and cryotherapy. PDT can be tailored according to AK severity and patients' needs (together with AFL and daylight to lead to the reduction of new AK lesions).

Key Words:

NMSC, Organ transplant recipients, Treatments, PDT

PDT combination therapies for AK / NMSC

Photodynamic therapy (PDT) has proven high efficacy in various types of keratinocytic cancer (KC) including actinic keratosis (AK), Bowen disease (BD), and (superficial) basal cell carcinoma (BCC). However, a total lesion clearance can frequently not be achieved and non-responding or partially responding lesions remain. Recently it has been demonstrated that non-responding lesions of AK predominantly exhibit the histological type of proliferative AK that are prone to turn into invasive squamous cell cancer. For this, various attempts have been made to combine PDT with other treatments, either simultaneously (e.g. laser assisted PDT) or sequentially (e.g. combination therapies with topicals, systemic treatments, surgical approaches or even radiation therapy). The presentation will provide an overview on possible combination partners and evaluate clinical feasibility and efficacy of such combinations.

Key Words:

PDT, Combination therapy, Keratinocytic cancer

Off-label indications of ALA/ MAL PDT and a possible strategy for the future

After more than 30 years from the first report by R. Pottier and J Kennedy, PDT with topical application of MAL and ALA cannot be still considered a novel treatment option. However, its therapeutic potential and the optimal technique are not fully clarified so far. It is approved in both US and EU for the treatment of basal cell carcinoma, Bowen and AK.

Although not formally approved, photorejuvenation of chronic photodamaged facial skin is another popular use of PDT because it is a “positive” side effect that is noted during PDT of the above-mentioned skin malignancies.

However, due to its effects on the immune and inflammatory pathways of almost all skin cell populations it has been also investigated for the treatment of a broad number of oncologic, infectious and inflammatory indications. Among others, acnes, CTCL, granuloma anulare, Necrobiosis lipoidica and rosacea have been investigated in depth. Photodynamic antimicrobial chemotherapy (PACT) of skin and nail mycosis, condylomata and warts has been investigated as well and very good results were shown in the treatment of skin leishmaniosis.

However, results are not, almost always, supported by robust study design and head to head comparative studies with standard therapeutic options are rarely available. In addition, many studies are not randomized and blinded and the duration of follow-up is usually short.

Key Words:

Acne, Condylomata, MAL, PDT, Photorejuvenation

Occupational skin cancer and prevention - a place for PDT?

When in 1775 the London based surgeon, Sir Percivall Pott was the first to describe the so called “Chimney sweepers cancer” he wasn’t only reporting the first cancer induced by environmental carcinogens but also defined the first occupational disease in medical history. The chimney sweepers cancers were SCC of the skin (cSCC), developing on the scrotum of adolescent boys exposed to chimney soot as part of their dangerous work cleaning narrow chimney flues during the times of the industrial revolution in many parts of Europe and especially the UK. Nowadays skin cancers developing against a background of occupational exposure of carcinogens are most frequently related to natural UV-light exposure and, with ever growing rates, represent one of the key occupational diseases in outdoor workers such as builders, farmers, soldiers and others.

PDT represents one of the most established and effective and therefore preferred treatment approach to manage large fields of actinic field damage, representing the usual type of skin condition outdoor workers develop after a working life in the sun. With persistent remission rates exceeding 70% of AK lesions treated in the 12 months follow-up, PDT represents not only an attractive management for the short term but provides a certain preventive effect against new AK lesions developing in the field treated. However, strong evidence for a preventive impact of PDT (and other topical AK therapies) against invasive cutaneous SCC is still missing in this high risk groups (outdoor workers, organ transplant recipients and others). Similar to other treatment approaches aiming for AK, but nowadays representing an essential pillar in the comprehensive and sustainable management of patients at high risk for invasive cSCC, new studies evaluating secondary preventive effects against invasive skin cancers are much needed.

Key Words:

AK, cSCC, occupational, PDT, prevention

Yolanda Gilaberte
Zaragoza, Spain

Alba Navarro, Manuel Almenara, Paulina Cerro, Carmen Aspiroz

***Tinea capitis* caused by *Microsporum canis* treated with MAL Daylight-PDT and ketoconazole shampooing**

Tinea capitis is a dermatophyte infection that primarily affects children and require oral treatment for 4-8 weeks. It is an endemic infection in some countries that without treatment could result in scarring alopecia.

A 10-year-old boy diagnosed with tinea capitis caused by *M. canis*, whose mother refused oral treatment and topical antifungals were ineffective, was treated with homebase daylight photodynamic therapy (DL-PDT) with methyl-aminolevulinate. A progressive improvement was observed after every session reaching microbiological cure after 10 sessions, the last 5 in combination with ketoconazol shampooing.

PDT alone or combined with antifungals has been used to treat various cutaneous mycoses. There are few reports of their use for tinea capitis. The combination with antimicrobials can reduce both, the number of PDT sessions and also the dose or duration of antimicrobials. DL-PDT is a painless procedure very convenient to treat children. More studies are needed to explore the utility of PDT in *tinea capitis*.

Key Words:

Tinea capitis, Daylight-PDT, mycoses, MAL

Francesco Borgia
Messina, Italy

Efficacy and safety of conventional versus Daylight-PDT in children affected by multiple facial flat warts

Background: facial flat warts (FFWs) are difficult to treat, especially in children.

Objectives: to investigate the efficacy and safety of conventional photodynamic therapy (c-PDT) versus daylight-PDT (DL-PDT) using 10% aminolaevulinic acid in recalcitrant paediatric FFWs.

Materials and methods: 30 patients aged < 18 years were randomly divided in two groups (A and B) and treated three times with 1-month intervals with C-PDT and DL-PDT, respectively. The response assessed at week 24 was scored as excellent, very good, good and poor. Any adverse effects were recorded.

Results: excellent outcome was observed in 73.3% and 80% in group A and B, respectively, at week 24. Poor response was observed in 26.7% in group A and 20% in group B. Both treatments were well tolerated with mild side effects. At 1-year follow-up, excellent response was maintained in both groups (60%).

Conclusions: Both modalities proved to induce durable clearance.

Key Words:

Conventional PDT, Daylight-PDT, Human papilloma viruses, PDT, Warts

Merete Haedersdal**Copenhagen, Denmark**K. Togsverd-Bo, C. Sandberg, P. Helsing, G. Mørk,
A.M. Wennberg, H.C. Wulf

Cyclic PDT delays first onset of AK in renal transplant recipients: a 5-year randomized controlled trial with 12-month follow-up

This study investigated the effect of cyclic PDT for primary prevention of AK in renal transplant recipients (RTR).

RTR on stable immunosuppressant therapy with no prior history of AK, skin cancer or PDT-treatment were included. Patients were randomized to receive conventional PDT on one side of the face, dorsal forearm and hand, performed at 6 months intervals for 5 years, the contralateral side served as untreated control.

In the 24 patients (52%) who developed AK, PDT significantly delayed the first onset of AK by a median of 11 months ($p=0.04$) and resulted in fewer AK lesions compared with untreated skin (total AK: 76 vs. 32, $p<0.01$). At 6 years follow-up, 65% of PDT-treated skin areas showed no clinical signs of AK compared to 45% in untreated control areas.

Cyclic PDT delays the onset of AK, and may reduce morbidity from multiple AK, in high-risk RTR.

Rolf-Markus Szeimies**Recklinghausen, Germany**

PDT Combination Therapies for Aesthetic Indications

PDT is well established for the treatment of keratinocyte neoplasms. Besides its efficacy and low level of side effects, PDT leads also to a significant improvement of cutaneous signs of ageing, including the presence of fine wrinkles, mottled skin pigmentation and teleangiectasias. The underlying mechanisms of action are meanwhile well understood: Essential is the PDT-induced synthesis of keratinocyte-derived cytokines which penetrate the basal layer of the epidermis and affect the dermal collagen metabolism.

Synergistic procedures like pretreatments with ablative lasers (CO₂, Thulium or Er:YAG) or microneedles now either enhance photosensitizer penetration or exert a direct positive effect on the skin. Another synergistic effect has been observed with light sources for photosensitizer excitation like intense pulsed light sources or flashlamp-pumped, pulsed dye lasers. Here direct vascular effects (occlusion of ectatic vessels) are accompanied with the photodynamic effect.

Meaningful combination therapies with different devices and their aesthetic effect will be presented.

Key Words:Skin ageing, MAL, PDT, Photorejuvenation,
Microneedling

Ann-Marie Wennberg
Gothenburg, Sweden

Optimizing treatment of acne with PDT to achieve long-term remission and reduce side effects

A number of treatments are available for the chronic and inflammatory disease, acne vulgaris, They include; numerous topical treatments, oral antibiotics and retinoids as well as hormones. PDT also has a place in this arsenal. Both red and blue light have shown to be affective. Sensitizers with photoactive porphyrins can be added.

Different PDT studies on acne will be discussed regarding pros and cons. The adverse event of pain is a limiting factor.

A presentation of the study of Wojewoda et al, Optimizing treatment of acne with photodynamic therapy (PDT) to achieve long-term remission and reduce side effects. A prospective randomized controlled trial, will be given.

Key Words:

Acne vulgaris, PDT, Porphyrin,
Blue and red light, Pain

Paul O'Mahoney
Dundee, Scotland

Daniella Levins, Carol Goodman, Susan Yule,
Ewan Eadie, Sally Ibbotson

Product design in the development of a home-based daylight PDT service

Daylight photodynamic therapy (DPDT) is a convenient and pain-free alternative for treatment of actinic keratoses. Access to treatment and scheduling can be inconvenient however, with a clinic visit required before every treatment, and for treatment to be performed that day. We have had success with self-applied DPDT for some of our more engaged patients, and we thought to expand on self-administered DPDT with an easy to use, designed home kit.

A collaboration between the Photobiology Unit (NHS Tayside) and a design student at the University of Dundee resulted in a proof-of-concept DPDT@Home kit that was produced and tested with select patients during our 2021 DPDT season. The kit was well received, and feedback enabled us to refine the design.

The project is taken forward currently in collaboration with NHS Forth Valley and Galderma, who are providing funding and mass-producing the kit to further test the feasibility of delivering this service.

Key Words:

Daylight, PDT, Home treatment

Paul O'Mahoney
Dundee, Scotland

For Samuel, Ewan Eadie, Sally Ibbotson

Fluorescence and skin temperature: their relationship in PDT

PpIX is known to fluoresce, emitting red (635 nm) light when stimulated with blue (405 nm) light. Thus, accumulation of PpIX in the skin can be measured using fluorescence imaging. We undertook a study to investigate the relationship between PpIX fluorescence and skin surface temperature before and during PDT. As PDT is known to be less effective on the extremities, we aimed to investigate associations between fluorescence and temperature at different body sites.

Both fluorescence and temperature at the end of the 3-hour incubation were significantly higher on the trunk than the lower leg. Clearance rates at 12 months were found to be comparable between both body sites. Despite lower fluorescence, higher pain was recorded on the lower leg.

The relationships between fluorescence and temperature are dependent on body site however this may not specifically translate to efficacy. The findings in this study may assist optimisation of PDT therapeutic approaches.

Key Words:

Fluorescence, Temperature, PpIX, PDT

Sven Quist
Mainz, Germany
J. Quist

Artificial Daylight-PDT with the Multilite-System – office based experience

Artificial Daylight PDT by MultiLite emits only a light spectrum of natural sunlight that is needed for PDT. A specific dose of its light is equivalent to two hours of exposure to equatorial sunlight. Another advantage to natural sunlight is the modulation of penetration depth. The treatment area covers up to 500 cm² and starts with blue light (415 nm, low penetration depth), followed by yellow light (585 nm, medium penetration depth) and finally red light (635 nm, high penetration depth). In our clinic, we use this system in combination with fractional CO₂ laser therapy in advance for areas up to 1000 cm² (combining 2 Multilite systems), head, arms, legs, back that is followed by application of 5-MAL. Two protocols are applied, one includes an 5-MAL incubation of 60 minutes followed by a 35 minutes exposure and the second incubation of 30 minutes followed by 80 minutes exposure to Multilite.

Key Words:

Ambulatory dermatology, Artificial Daylight-PDT, Multilite

Henry Abi-Rached
Lille, France

Light emitting textiles: other indications (Paget disease, folliculitis decalvans...)

Introduction: Light emitting fabrics (LEF) have recently emerged as an innovative tool for photodynamic therapy (PDT) in dermatology and proven that it is possible to perform painless PDT.

Material and Methods: They display optic fibres, which are flexible and efficient light conductors, knitted in a textile and connected to a light source. The fabrics are designed by weaving together the optic fibres and the conventional textile to create a LEF that is highly flexible and capable of delivering a homogenous and reproducible light dose on complex skin surfaces.

Results: LEF-PDT is an alternative to day-light PDT that allow us to use PDT all year around. Its painless nature led us to successfully treat patients with vulvar Paget disease without pain when anaesthesia is needed with conventional PDT. LEF-PDT is currently developed for other indications such as folliculitis decalvans and localized mycosis fungoid.

Conclusion: LEF-PDT is an interesting technology and has great potential applications in dermatology.

Key Words:

PDT, Light emitting fabrics,
Extramammary Paget disease, Folliculitis decalvans,
AK

Erik Mørk

Trondheim, Norway

Patricia Mjønes, Olav A. Foss, Cato Mørk, Ingeborg M. Bachmann,
Susanne Kroon, Lars K. Dotterud, Per Helsing, Øystein Vatne,
Eidi Christensen

Clinical versus punch biopsy assessment of BCC subtype and thickness within a PDT-setting

Introduction: International guidelines recommend PDT for superficial and nodular subtypes of basal cell carcinoma (BCC) ≤ 2 mm thick¹.

Objectives: To investigate whether clinical assessment is a reliable method of selecting tumours suitable for PDT by studying the agreement between corresponding clinical and histological assessments of BCC subtype and thickness.

Methods: Clinical assessments was performed through inspection and palpation with histology as reference. Statistical analysis included sensitivity, specificity, percentages and ratios.

Results: 343 tumours were investigated. Ninety-three percent of BCCs clinically categorized as superficial ≤ 2 mm, complied histologically with current PDT-guidelines. Sensitivity of clinically diagnosed nodular tumours was 55% and thickness was often underestimated.

Conclusions: Agreement between clinical and histological assessment of BCC-subtype and thickness was unsatisfactory, which supports the use of pre-PDT biopsy. However, when a BCC is clinically considered to be superficial ≤ 2.0 mm thick, an omission of biopsy may be acceptable in selected cases.

Reference

1. Morton CA, Szeimies RM, Basset-Seguín N, et al. European Dermatology Forum guidelines on topical PDT 2019 Part 1: treatment delivery and established indications - actinic keratoses, BD and BCC. *J Eur Acad Dermatol Venereol.* 2019; 33(12):2225-38.

Key Words:

BCC, Clinical assessment, Histology,
PDT, Subtype, Thickness.

Robert Stephens
Rouse Hill, Australia

Photodynamic treatment of BCCs using a biphasic activation protocol consisting of red light followed by IPL delivered with mechanical pressure

Since 2018, we have adopted a photodynamic treatment protocol for BCCs where activation is performed using Aktilite (22-37J) followed by intense-pulsed-light delivered with enough mechanical pressure to blanch the lesion.

The rationale for this modification has several facets and includes increased fluence to tumour by removing chromophore (haemoglobin).

Engorgement of peritumour vessels occurs during Aktilite activation (often seen as flushing) and this may be detrimental to treatment success. Scattering of light from dermal tissue is enhanced when haemoglobin is drained from vessels. Back-scattered light may increase fluence to tumour cells in deeper layers of the tumour. This may be of importance for both nodular and superficial tumours.

In our initial series of 36 lesions (most lesions were nodular, most located on the face) there was 1 incomplete removal at a mean 12-month follow-up. We have used optical coherence tomography to measure tumour depth of most tumours and to verify clearance.

Key Words:

BCC, Compression, Haemoglobin, IPL, OCT, PDT

Stefano Caccavale
Naples, Italy
Maria Pia Boccellino, Giuseppe Argenziano

Daylight-PDT with MAL cream in the treatment of AK on the face and scalp and related field cancerization carried out with two different skin preparation modalities, curettage vs keratolytics: an interventional study conducted in Italy

40 patients with at least three grade I and/or grade II AKs on the face/scalp areas were included in this interventional study and randomized in two groups (MAL DL-PDT preceded by skin preparation in hospital with curettage vs MAL DL-PDT preceded by skin preparation at home with 30% urea cream for 7 days). 39 patients completed the study. Treated areas were evaluated by dermoscopy and reflectance confocal microscopy (RCM) at time 0 (V1) and after 13 weeks (V4). There was no statistically significant difference between the groups in terms of average reduction in the number of AKs (58.6% curettage vs 54.7% keratolytics). RCM confirmed a major improvement of epidermal and dermal microscopic scores, particularly in curettage group (-50.9% vs -35.4%). Curettage group had a slightly higher average discomfort during (VAS score: 2.0 vs 1.6) and after DL-PDT (VAS score: 0.9 vs 0.7). Moreover, data demonstrated a good patient satisfaction and an excellent tolerability of DL-PDT in both groups.

Key Words:

AK, curettage, Daylight-PDT, Dermoscopy, Field cancerization, Keratolytics, MAL, Reflectance confocal microscopy

Darío de Perosanz-Lobo**Madrid, Spain**Montserrat Fernández-Guarino, Ángeles Juarraz,
Diego Fernández-Nieto, Ana Isabel Sánchez-Adrada, Pedro Jaén

Molecular markers of response in the treatment of AK with Daylight-PDT

Prospective study conducted on 22 patients with field cancerization and AK treated with DLPDT with MAL. Skin biopsies were performed before and three months after treatment. Patients were divided according to their clinical response. RNA arrays were performed in selected cases to study the molecular response. Of the 32 genes analyzed related to the development of SCC, we found overexpression of proto-oncogene Myc in poor responders, while the tumor suppressor gene PTEN showed underexpression. These changes are currently under validation by immunohistochemistry, and could potentially provide molecular biomarkers predictive of poor clinical response. We also found PIK3R1 underexpression in all good responders and overexpression in all poor responders after treatment, suggesting the existence of a molecular basis that could determine a good or bad response to DLPDT.

Key Words:AK, Biomarkers, Daylight-PDT, Genetics of SCC,
Predictive response, RNA arrays**POSTERS**

Manuel Almenara Blasco**Barboles, Spain**

Tamara Gracia Cazaña, Marcial Álvarez Salafrañca,
Isabel Abadías Granado, Marcos Antonio Gorgojo, Isabel Bernad,
Alba Navarro Bielsa, Eva Sancho Moro, Mar García-García, Yolanda Gilaberte

Synergic treatment with PDT and oral antifungal in CUTaneous alternariosis in immunosuppressed patients

Introduction: Alternaria is a dematiaceous (pigmented) fungus that it usually infects immunosuppressed patients. In these patients the treatment can be challenging due to interactions with immunosuppressants as well as the comorbidities that these patients have associated.

Clinical cases: We describe the case of four immunosuppressed patients, two patients with kidney transplant under treatment with tacrolimus, another patient with polymyositis with the same immunosuppressant and finally a patient with COPD in treatment with long-acting oral corticosteroid. Cultures were performed to confirm infection. The four patients had multiple comorbidities as well as drug interactions with antifungal drugs so on all of them to minimize treatment time with azoles it was decided to associate PDT. In all of them there was a resolution without presenting recurrences throughout of their follow-up.

Conclusions: Photodynamic therapy (PDT) is an alternative to antifungal agents conventional or adjuvants to traditional pharmacotherapy.

Key Words:

Alternariosis, PDT, Immunossupresion, Antifungal

Stefano Caccavale**Naples, Italy**

Paola Vitiello, Giuseppe Argenziano

A cutaneous pseudolymphoma treated with topical MAL PDT: a case report

Cutaneous pseudolymphoma (CPL) is a benign dermatological disease that simulates malignant lymphomas clinically and histopathologically. Many treatments for CPL have been proposed and are used in daily clinical practice (topical or intralesional corticosteroids, surgical excision, cryotherapy, radiation). However, many of these treatments have been associated with adverse effects (scars, skin atrophy).

We report a case of CPL on the trunk that was treated with conventional photodynamic therapy (c-PDT) using 16% methylaminolevulinate (MAL) cream and was irradiated by red light at a wavelength of 630 nm (Aktilite) at 100 J/cm². The patient experienced a complete clearance of CPL with 3 sessions of MAL-PDT and no significant side effects.

This is, to our knowledge, the first case of CPL treated with MAL-PDT. Our results in this patient suggest that PDT could be considered a promising therapeutic option also for treating CPL.

Key Words:

Conventional PDT, Dermoscopy, MAL-PDT,
Primary cutaneous lymphoproliferative disorders,
Pseudolymphomas

Stefano Caccavale
 Naples, Italy
 Giuseppe Argenziano

ALA-PDT combined with curettage and microneedling for acral resistant warts

Background: ALA-PDT is often successful in the treatment of recalcitrant warts. PDT could have a limited efficacy in the treatment of thick warts because of the low penetration of topical 5-aminolevulinic acid (ALA).

Methods: 46 patients with one or more resistant plantar or palmar warts were recruited for this study between November 2017 and December 2021. Patients performed sessions of curettage, followed by application of 10% ALA cream on and around warts, and by microneedling. The pricked skin was covered for three hours and, then, irradiated with a red-light source (630 nm, 75 J/cm²). Patients performed sessions every three weeks.

Results: After 3 complete sessions, 25 patients (54.3%) showed complete remission. 7 patients (15.2%) healed with more than 3 sessions. 14 patients (30.5%) interrupted the treatments for various reasons.

Conclusion: The combination of curettage, microneedling, and ALA-PDT offered an effective and safe alternative for the treatment of acral resistant warts.

Key Words:

ALA-PDT, Warts, Curettage, Microneedling

Stefano Caccavale
 Naples, Italy
 Paola Vitiello, Giuseppe Argenziano

Primary cutaneous lymphomas and conventional PDT: a case series

The efficacy of conventional-photodynamic therapy (c-PDT) in the treatment of cutaneous lymphoproliferative diseases is poorly understood and literature data are still controversial.

We treated 10 patients affected by primary cutaneous T-cell lymphomas (PCTCL) with c-PDT. 8 patients had an early-stage, unilesional or paucilesional classical mycosis fungoides (MF); 1 was affected by folliculotropic MF, and 1 by lymphomatoid papulosis. Both ALA-PDT and MAL-PDT were used, with various treatment protocols depending on the patient. A complete response was observed in 60% of patients; 30% had a partial response, and only 10% interrupted PDT sessions.

Our results attest how PDT could be considered as a therapeutic weapon for treating PCTCL because of its efficacy, excellent cosmetic results and its safety. Clinical trials involving a higher number of patients and centers with a long follow-up are necessary to evaluate the efficacy of PDT, and establish a unique standardized treatment protocol.

Key Words:

Conventional PDT, Cutaneous lymphomas, Primary cutaneous lymphoproliferative disorders, 49 Primary cutaneous T-cell lymphomas, Mycosis fungoides

Eidi Christensen

Trondheim, Norway

Olav A. Foss, Petter Quist-Paulsen, Ingrid Staur,
Frode Pettersen, Toril Holien, Petras Juzenas, Qian Peng

PDT with 5-ALA to extracorporeal photopheresis in the treatment of patients with graft-versus-host disease; a Phase I study

Purpose Extracorporeal photopheresis (ECP) is an immunomodulatory therapy where part of patients' blood is exposed to photoactivatable 8-methoxypsoralen (8-MOP) and UVA light to induce apoptosis of T-cells and thereby modulate immune responses. The use of 5-aminolevulinic acid (ALA), may improve ECP efficacy by more selective and effective targeting of the activated T-cells. The aim of the study was to evaluate the safety and tolerability of ALA-ECP.

Methods: A photopheresis system with ALA instead of 8-MOP was used. Patients with graft-versus-host disease received up to 20 treatments with regular follow-ups. Safety and tolerability were monitored through clinical and laboratory examinations and patient reports. Descriptive data are reported.

Results: After 82 treatments in five patients, no significant persistent changes in vital signs or laboratory values were detected. None of reported adverse events were considered to be likely related to the study medication.

Conclusions: The results indicate that ALA-ECP is safe and tolerated by patients.

Key Words:

5-ALA, Graft-versus-host disease, Extracorporeal photopheresis, PDT, Phototherapy

Erik Mørk

Trondheim, Norway

Patricia Mjønes, Olav A. Foss, Cato Mørk,
Ingeborg M. Bachmann, Susanne Kroon, Lars K. Dotterud,
Per Helsing, Øystein Vatne, Eidi Christensen

Clinical versus punch biopsy assessment of BCC subtype and thickness within a PDT-setting

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Conclusions: Agreement between clinical and histological assessment of BCC-subtype and thickness was unsatisfactory, which supports the use of pre-PDT biopsy. However, when a BCC is clinically considered to be superficial ≤ 2.0 mm thick, an omission of biopsy may be acceptable in selected cases.

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Key Words:

BCC, Clinical assessment, Histology, PDT, Subtype, Thickness.

Colin Morton**Stirling, United Kingdom**

Samira Baharlou, Nicole Basset-Seguín, Piergiacomo Calzavara-Pinton, Thomas Dirschka, Yolanda Gilaberte, Merete Haedersdal, Günther Hofbauer, Sheetal Sapra, Rick Waalboer-Spuij, Leona Yip, Rolf-Markus Szeimies

Personalising AK Treatment (PAKT): Facilitating personalised, longitudinal approaches to AK management

Actinic keratosis (AK) is a chronic skin condition requiring management of precancerous lesions within a field of cancerisation. Treatments include natural and artificial photodynamic therapy (PDT). Practical guidance on personalising AK care is limited. The PAKT panel of 12 dermatologists aimed to address this gap by generating recommendations using modified Delphi ($\geq 75\%$ voting "Agree"/"Strongly agree").

Determining suitable AK treatment requires consideration of multiple factors related to the patient and treatment (11/12), including immunosuppression status (12/12), risk of progression to SCC (11/12), and patient preferences for (11/12) and experience of (10/12) treatment. Previous AK (9/12) or NMSC (11/12) history and immunosuppression status (11/12) should influence follow-up. The panellists assigned attributes to licensed AK treatments, aiding shared decision-making with patients.

The PAKT group's recommendations can support PDT use where appropriate in personalising longitudinal AK care. A practical clinical tool, based on these recommendations, is under development.

Key Words:

AK, Field cancerisation, Personalisation

Alba Navarro-Bielsa**Zaragoza, Spain**

Paulina Cerro-Muñoz, Manuel Almenara-Blasco, María Jiménez Sanmartín, Tamara Gracia-Cazaña, Yolanda Gilaberte

Dermoscopic structures predictive of response to PDT in BCC

There are no studies that relate the dermoscopic characteristics of basal cell carcinomas (BCCs) with the response to PDT. The objective was to find dermoscopy signs to predict PDT response for BCC.

Methods: Prospective study of patients with BCC, treated with 2 sessions of MAL-PDT at the Miguel Servet Hospital in Zaragoza between 2019 and 2021.

Dermoscopic signs and response to PDT with a minimum follow-up period of 9 months were recorded.

Results: Twenty-nine BCCs were included (10 nodular-19 superficial). The only dermatoscopic pattern that was statistically significantly associated with lack of response and/or recurrence, was the presence of cartwheels ($p=0.043$). Blue-grey globules, cartwheels, and concentric structures were significantly associated with recurrence ($p=0.022$, $p=0.000$, and $p=0.004$).

Conclusions: Superficial pigmented dermoscopic structures have been associated with no response to PDT, whereas deeper pigment structures, such as globules, have been associated with recurrence.

Dermoscopy could help identify structures to predict the response of BCCs to PDT, improving its efficiency.

Key Words:

BCC, Dermoscopy, PDT

Francesca Pepe
Bologna, Italy

Sabina Vaccari, Matilde Roda, Costantino Schiavi

Successful PDT of eyelid Bowens Disease

A 70-year-old Caucasian man presented a persistent erythematous macule that involved the whole superior left eyelid for several months. High-resolution videodermoscopic examination and punch biopsy were performed.

Material and methods: Dermoscopy revealed glomerular vessels clustered on erythematous background and histology confirmed Bowen's disease (BD).

Discussion: The patient underwent a cycle of five sessions of conventional photodynamic therapy (cPDT) using the photosensitizing agent methyl aminolevulinate (MAL).

MAL was applied on the superior left eyelid and was left under occlusion for 3 hours. A conjunctival anesthetic was instilled into the eye 5 minutes before inserting the ocular shield. Then the lesion was illuminated by a red LED lamp 37 J/cm² over a period of 8 minutes at a distance of 10 cm. MALPDT was performed once a month. A complete healing and resolution were achieved clinically and dermoscopically after the fifth session of PDT. The patient had had no further recurrence after one year.

Key Words:

PDT, BD, Dermoscopy, Eyelid, Irradiation

Francesca Pepe
Bologna, Italy

Alessandro Pileri, Bianca Maria Piraccini, Sabina Vaccari

Successful treatment of Mycobacterium marinum with combination of antibiotics and PDT

Atypical mycobacteriosis (AM) is a rare disease, which is caused by an infection with mycobacteria other than tuberculosis. The diagnostic and therapeutic management is often challenging. We present two cases of mycobacteriosis treated with conventional photodynamic therapy (cPDT). Clinically, both patients were asymptomatic: one patient showed a persistent erythematous plaque of the occipital region of the scalp; the second one had two multiple, small and indolent plaques on the back of the left hand.

Material and methods: A culture test and a punch biopsy were performed, confirming AM and identifying *Mycobacterium marinum*.

Discussion: In both cases, a combined treatment with a systemic therapy with rifampicin and clarithromycin and conventional photodynamic therapy (cPDT) was started.

MAL was applied to the surface of the plaque under occlusion for 3 hours and the corresponding lesion was irradiated with red LED lamp 37 J/cm² for 8 minutes at a distance of 10 cm. The treatment was repeated every month for five times. The lesions gradually lightened and flattened, healing with post-inflammatory hyperpigmentation in one patient.

Antibiotics were stopped after the last cPDT. There was no recurrence after two years.

Key Words:

Mycobacterium marinum, Atypical mycobacteriosis, PDT, Combined therapy, MAL

Name of the company:
GALDERMA SA

Address of the company:
Zählerweg 10, 6300 Zug, Switzerland

Website of the company:
<https://www.galderma.com/>

Contact email:
marie-christelle.tine@galderma.com

Name of the company:
GME German Medical Engineering GmbH

Address of the company:
Dreikoenigstrasse 6-8, 91054 Erlangen, Germany

Website of the company:
www.pdt-lampe.de - www.gmeonline.de

Contact email:
info@gmeonline.de

Name of the company:
SURGIRIS

Address of the company:
80 rue de la Gare, 59170 Croix, France

Website of the company:
<https://dermaris-pdt.com>

Contact email:
dermaris@surgiris.com

Name of the company:
MDB TEXINOV

Address of the company:
56 route de Ferrossière
38110 Saint Didier de la Tour, France

Website of the company:
www.texinov.com

Contact email:
aplat@texinov.fr

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(*) Official publication of the clinical study is available from the "British Journal of Dermatology": <https://doi.org/10.1111/bjd.18048>
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Professor Dr. med. habil. Uwe Paasch
Universitätsklinikum Leipzig

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GME GmbH

Dreikoenigstr. 6 - 8
91054 Erlangen • Germany
Phone: +49 9131 934 1590
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