

# Congress Review

## European Academy of Dermatology and Venereology (EADV) 2020 Virtual Congress

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VIENNA, Austria, is a city with unquestionable spirit, influence, and grandiosity, and would have been a spectacular host to this year's European Academy of Dermatology and Venereology (EADV) 29<sup>th</sup> Congress. In light of the restrictions on travel and large gatherings during the coronavirus disease (COVID-19) pandemic, and valuing the safety of their members, the EADV took the hard decision to make the congress fully virtual this year for the first time in its history. We bore witness to the effects of the hard work that made this congress a success as it proudly provided an outstanding educational learning experience in a marvellous all-virtual framework. Creative strokes of genius allowed EADV to cross borders as we were greeted with a virtual welcome to the platform by Prof Carle Paul, EADV President (2020), University of Athens, Athens, Greece, upon first entering.

The congress began on 29<sup>th</sup> October, which coincided with World Psoriasis Day 2020. This befitting occurrence acted

as a reminder that the mission of EADV is "to help and empower the millions of individuals who are living and suffering with skin diseases," shared Prof Paul. The main theme for the congress was 'New Frontiers in Dermatology and Venereology', and "the EADV team has taken forward the EADV mission while supporting innovation and new ways of thinking," according to the EADV President. The congress drew in more than 12,000 participants, 750 speakers, and 170 exhibitors from over 100 countries across the world. Not only did it push boundaries with its visual representation, but also with the scientific information and knowledge it delivered.

With 170 sessions, more than 500 experts, over 1,600 abstracts, and 28 virtual booths, participants were granted access to 3 days' worth of interactive sessions. Up-to-date scientific data presented by experts worldwide were hand-picked by EADV Scientific Committee leaders. Presentation topics spanned across the discipline and included inflammatory

skin diseases, improving the patient-doctor relationship, cutaneous oncology, infectious diseases, dermoscopy, hair and nail disorders, and paediatric dermatology, as well as a special address from Dr Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization (WHO), who delivered the latest news on the COVID-19 pandemic. EADV provided novel ways to connect, and the participants were invited to enjoy a series of mini-breaks and social media masterclasses to further improve communication, bringing the interaction and sense of global community to physicians, nurses, and patient representatives through the screen.

A strong online presence was observed on Day 1 of the congress and new audiences were reached with an astounding 10,923 online attendees, almost as high as the face-to-face congress. Media engagement was high across social platforms and ground-breaking news stories on the topics of dermatology and COVID-19,

vitamin B3 and ultraviolet exposure, and increased sexually transmitted infections during national lockdowns attracted much attention. Attendance of the virtual meeting of the congress remained strong across the weekend and 10,945 attendees saw the congress draw to a close on Day 3. At the congress, Prof Alex Stratigos was announced as the newest President-elect and was warmly encouraged by Prof Paul to further the success of EADV in extending the frontiers of knowledge of skin diseases.

EADV considers education as the main foundation for continuing professional development. The information delivered at the congress left healthcare professionals with a wealth of evidence to help better manage skin diseases in their clinical practice. As Prof Paul shared in his welcome, “Keeping ahead of the curve is essential for EADV... This has enabled us to continue to grow in strength, effectiveness, and wisdom and in so doing, better serve our members.”

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## Nanoparticle Technology Can Prevent Foot Odour

SOCKS that have been coated in nanoparticles of zinc oxide have been shown to thwart bromodosis (foot odour) and pitted keratolysis (the bacterial infection that causes feet to smell). This is according to a study presented at EADV Virtual Congress and a press release dated 30<sup>th</sup> October 2020.

Antibacterial efficacy, safety, and compatibility with human skin are all properties of zinc oxide nanoparticles that have been found to make them a suitable compound for textiles, including socks, by researchers from the Royal Thai Airforce, Bangkok, Thailand. In a double-blind, randomised controlled trial enrolling 148 cadets at the Thai Naval Rating School, the team sought to prevent the development of bromodosis and pitted keratolysis, which occur in over one-third of naval cadets in Thailand (38.5%), by using zinc oxide nanoparticle-coated socks.

Significantly, those wearing the coated socks had less foot malodour than at baseline ( $p=0.009$ ), compared with the uncoated sock group, who experienced a greater level of foot odour ( $p=0.04$ ). Additionally, those not wearing the coated socks were more likely to develop pitted keratolysis compared with those wearing the nanoparticle socks ( $p=0.05$ ).

Bromodosis is a common complaint among military personnel and negatively impacts their daily lives. Dr Punyawee Ongsri, lead study author and final year resident at the Siriraj Hospital, Bangkok, Thailand, was motivated to find a solution to this problem after encountering it first-hand: "While completing an internship as a naval officer in the medical department, I saw a high number of foot infections in military personnel. I wanted to find a way to prevent and treat these fungal and bacterial infections and those conditions associated."

Dr Ongsri is optimistic about the results of the study, and is continuing the research with additional materials, hoping to treat and prevent other bacterial and fungal infections.

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## Long COVID and Sustained Skin Symptoms

LONG-LASTING dermatological symptoms in patients who have had coronavirus disease (COVID-19) have been found to vary according to the type of COVID-19 skin rash. This is according to research presented at the EADV Virtual Congress in a press release dated 29<sup>th</sup> October 2020.

The International League of Dermatological Societies (ILDS) and the American Academy of Dermatology (AAD) have created a large registry, the International COVID-19 Dermatology Registry, which involves 990 COVID-19 patients with skin symptoms from 39 countries. Data from the registry has subsequently been analysed, revealing that a subset of patients with 'long COVID' have presented with prolonged dermatological symptoms lasting >60 days.

On average, all skin symptoms endured for 12 days, with several lasting for >150 days. Hives (urticaria) was shown to last for a median of 5 days, pernio/chilblains lasted for a median of 15 days, and papulosquamous eruptions were present for a median of 20 days.

It is thought that these COVID-19 patients with dermatological symptoms that have persisted after the initial phase of COVID-19 could aid the understanding of the long-lasting inflammatory response observed in some cases postinfection. Additionally, these findings could help to predict COVID-19 severity, as 100% of the patients with retiform purpura experienced severe COVID-19 and were hospitalised. In contrast, just 16% of those who developed pernio/chilblains were admitted to hospital.

Principal Investigator of the registry Dr Esther Freeman, Massachusetts General Hospital, Boston, Massachusetts, USA, summarised the findings: "This data adds to our knowledge about how COVID-19 can affect multiple different organ systems, even after patients have recovered from their acute infection. The skin can provide a visual window into inflammation that may be going on elsewhere in the body."

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# Bacterium Therapeutic Shows Promise for Mild-to-Moderate Psoriasis

CROSSTALK between the small intestine and the immune system is well established, making this an attractive therapeutic target for immune conditions such as psoriasis. Researchers from Evelo Biosciences investigated whether the oral administration of a bacterium could interfere with this crosstalk to improve psoriasis symptoms; the results from the study were presented at EADV Virtual Congress and in a press release dated 29<sup>th</sup> October 2020.

The gut-body network relays immunomodulatory messages throughout the body, and specific bacterial strains have been identified to modulate the small intestinal axis and induce systemic inflammation resolution without immunosuppression, a key mechanism that leads to severe side effects. In the Phase Ib study, a non-living single strain of the bacterium *Prevotella histicola* was isolated from the duodenum of a human donor and was administered to two cohorts of patients with mild-to-moderate psoriasis (low-dose n=12; high-dose n=18) for 28 days. The microbe was given orally, but it is not absorbed into the body; instead, it interacts with the gut-body network to induce a systemic therapeutic immune response.

A significant reduction in Psoriasis Area Severity Index (PASI) score at Day 28 was seen in both the microbe cohorts versus placebo (16% versus 1%). This trend continued to the end of the 14-day follow-up, with PASI reductions being 21% in the high-dose group compared with 3% in placebo; however, the improvements in PASI in the low-dose group subsided, with the PASI reduction being 10% at Day 42. When assessing the Lesion Severity Scores (LSS), it was observed at Day 28 that the LSS in the high-dose and low-dose groups decreased by 15% and 23%, respectively, compared with an increase of 1% in the placebo group. Finally, a further reduction to 24% was seen in the high-dose group.

Lead author of the study Dr Douglas Maslin, Addenbrooke's Hospital in Cambridge, UK, and Evelo Biosciences, London, UK, commented: "It is a real breakthrough, especially as we have seen from the preclinical and Phase I trials that it was well tolerated with no overall difference from placebo and with no severe side effects reported."

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# Can Vitamin B3 Protect Skin Against Ultraviolet Exposure?

VITAMIN B3 treatment has been shown to protect skin cells against ultraviolet (UV) exposure-related oxidative stress, in a study shared at the EADV Virtual Congress and in a press release dated 31<sup>st</sup> October 2020.

UV radiation exposure is the main risk factor for nonmelanoma skin cancers because exposure leads to DNA damage, increased production of reactive oxygen species, local inflammation activation, and depletion of cellular energy; these processes lead to genomic instability and cell death. The incidence of nonmelanoma skin cancers is increasing worldwide; these cancers are already the most common malignancy among the Caucasian population.

Researchers from the dermatological unit of AOU Maggiore della Carità, Novara, Italy, pretreated human primary keratinocytes from the skin of patients with nonmelanoma skin cancers. They compared three concentrations of a form of

vitamin B3, nicotinamide, which they treated the isolated skin cells with for 18, 24, and 48 hours prior to exposure to UVB.

Pretreatment with 25  $\mu\text{mol}$  of nicotinamide 24 hours before irradiation with UVB was shown to protect against UV-induced oxidative stress and DNA damage. The nicotinamide enhanced repair of DNA, as expression of the DNA repair enzyme OGG1 decreased; decreased expression of antioxidants; and blocked local inflammation, as evidenced by reduced release of nitric oxide release, production of reactive oxygen species, and expression of inducible nitric oxide synthase.

The translation of these research findings to clinical practice was outlined by Lara Camillo: "Our study indicates that increasing the consumption of vitamin B3, which is readily available in the daily diet, will protect the skin from some of the effects of UV exposure, potentially reducing the incidence of nonmelanoma skin cancers. However, the protective effect of vitamin B3 is short-acting, so it should be consumed no later than 24 to 48 hours before sun exposure."

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## Anti-inflammatory Moisturiser Enjoyed by 97% of People with Dry Skin

XEROTIC and extremely dry skin can be treated with a novel allergen-depleted and anti-inflammatory fragrance. This is according to the results of a new study, which was presented at EADV Virtual Congress and reported as part of a press release on 31<sup>st</sup> October 2020.

After cell testing, researchers from Beiersdorf AG, Hamburg, Germany, who developed this new fragrance, found that the anti-inflammatory ingredients of the allergen-depleted fragrance composition reduced expression of both prostaglandin E2 and IL-8 after a stress response. The fragrance was added to a moisturiser and applied to the forearm of volunteers who shaved their skin on 3 consecutive days to monitor skin irritation. The study found that redness of skin was significantly reduced in people who used the moisturiser. Dr Julia Gallinger, senior scientist at Beiersdorf AG's Research, spoke of the benefits of the new product: "A moisturiser containing our novel fragrance could provide an improved treatment option for people with dry skin conditions. It would be both pleasant to use due to its scent, enhancing patients' treatment adherence, and actively soothing inflammation."

*"The long-standing paradigm of fragranced moisturisers considered as allergenic risk in the treatment of xerotic dermatoses may soon become obsolete"*

Fragrances are one of the most frequent causes of allergic contact dermatitis; the novel fragrance was innovatively developed without the addition of any of the 26 established allergens, or, remarkably, without any of the 60 potential allergens currently under evaluation. Patient treatment adherence to this moisturiser was enhanced, owing to its pleasant scent and thus improved cosmetic acceptability. In a patient preference study, 86 people with dry skin used the fragranced moisturiser for 2 weeks. The results showed that 97% of the participants agreed that application of the moisturiser did not feel burdensome or like a compulsory task but actually enjoyed the action of it. The scent in the lotion made care routines more pleasurable for 91% of participants and 71% confirmed that they preferred the scented moisturiser to their usual unscented moisturiser. "The long-standing paradigm of fragranced moisturisers considered as allergenic risk in the treatment of xerotic dermatoses may soon become obsolete," explained Dr Gallinger.



*"The results of this study highlighted the importance of ongoing screening for STI and the benefits of making screening services available and open during the pandemic"*

## COVID-19 Pandemic Did Not Deter Risky Sexual Behaviour

ADVICE on social distancing during the coronavirus disease (COVID-19) pandemic did not inhibit risky behaviour, and acute sexually transmitted infections (STI) increased during this time. This is according to the results of a new study presented at EADV Virtual Congress and reported in a press release dated 31<sup>st</sup> October 2020.

Despite restrictions and lockdown measures implemented by national and international organisations, the prevalence of STI such as gonorrhoea, secondary syphilis, and mycoplasma genitalium increased, compared with the number of diagnoses made over the same period of time in 2019 in two main STI centres in Milan, Italy. The study group for this research investigated the number of confirmed diagnoses of the most common STI in patients with symptoms from 15<sup>th</sup> March to 14<sup>th</sup> April 2020 after measures were put in place to control the ongoing pandemic.

The number of attendances to the clinic reduced by one-third over the course of the study but the number of acute bacterial infections, most associated with males who have sex with males, increased during the observational period, including secondary syphilis and gonorrhoea. Cases fell, however, in the nonacute cases, such as genital warts and molluscum contagiosum.

Dr Marco Cusini, study author, La Fondazione IRCCS Ca' Granda Ospedale Maggiore di Milano Policlinico, Milan, Italy, commented on the unexpected results: "It was assumed that the lockdown would reduce the opportunity for sexual encounters and STI. However, I was surprised by the number of new acute infections diagnosed in this short period of time."

The greater morbidity and mortality of COVID-19 observed in the elderly may have led younger people to believe they were more protected against this novel virus. Dr Cusini explained that, typically, gonorrhoea and syphilis are more prevalent in people aged 30–40 years old, and infection transmission may have increased in this cohort because of the reduced inhibitions of young people who thought they had lower risk of COVID-19 and continued to break physical distancing rules. Dr Cusini shared that it is "unrealistic to prevent people from having sex," but the close contact does lead to increased risk of COVID-19 infection. The results of this study highlighted the importance of ongoing screening for STI and the benefits of making screening services available and open during the pandemic.