

Photodermatology

Photodermatology Session Topics

Dr Amra Osmancevic, Gothenburg, Sweden: An Update on Vitamin D. A general review of the accumulating knowledge of vitamin D was given. Vitamin D insufficiency is common especially at higher latitudes. However, there is no consensus on the optimal level of serum calcidiol (25-hydroxyvitamin D) which is the best indicator of vitamin D status. Individual variation in vitamin D concentrations may be genetic in origin. A non-linear response between vitamin D intake and calcidiol concentration has also been observed. Calcidiol screening should be focused on subjects at high risk of vitamin D insufficiency, such as persons > 70 years of age, people with limited sun exposure, dark skin, fat malabsorption, and obesity. Solar UVB is the major source of vitamin D for most people, but photoprotection is necessary to prevent photodamage and skin cancer. About 30 min solar exposure at noon suffices for optimal vitamin D status.

Photobiologist Riikka Pastila, Helsinki, Finland: Sunbeds: What's in There? Riikka Pastila clarified the drawbacks of cosmetic sunbed UVA exposures which provide a tan, but offer minimal protection from subsequent UV exposures. The International Agency for Research on Cancer has classified artificial UV tanning devices as carcinogenic to humans on the basis of meta-analysis showing a 75% increased risk of melanoma when the first indoor tanning exposure occurred under the age of 35 years. Adolescence and early adulthood seem to be the most sensitive periods for UV drawbacks. Interestingly, frequent tanning behaviour exhibits signs of psychological and physiological dependence. The suggested mediator is beta-endorphin, cleaved together with melanocyte stimulating hormone from pro-opiomelanocortin, in keratinocytes. Many countries have forbidden, or aim to forbid, the sunbed use from the minors.

Dr Tapio Rantanen, Tampere, Finland: Update on Skin Photoprotection. Tapio Rantanen focused on photoprotection and for motivation, he showed figures of increasing incidence rates of melanoma from the Nordic Cancer Registries. Sunburn avoidance and photoprotection are the only ways of primary prevention. Rantanen recommended to observe the UV Index, limit time in the midday sun, wear protective clothing and sunglasses, use sunscreens liberally, re-apply every 2nd h, and keep babies out of the sun. A total of 27 filters are available in EU, but not all are widely used. New filters are assessed for chemical and physical properties, function, mode of action, toxicology, human data, and calculations for margin of safety. Safety concerns of sunscreens include radical formation, contact allergies, stability, systemic absorption, hormone-like activity, vitamin D aspects, environmental worries, and nanotechnology. The take-home messages were: Photoprotection is reasonable. Most sunscreens are effective, but many filters



From left: Meri Ala-Houhala, Leena Koulu, Riikka Pastila, Amra Osmancevic, Erna Snellman, Katja Vähävihi.

are not yet properly assessed. Nano-sized TiO₂ and ZnO do not penetrate stratum corneum. Human mind is the problem, photosensitive subjects want a tan. Sun holidays are sunburn holidays. Sunscreens are misused. Further campaigns to prevent sunburn are urgently needed.

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Genodermatoses

Plenary Lecture by Jouni Utto: Personalized Medicine for Heritable Skin Diseases

One of the emerging concepts of contemporary medicine revolves around personalized or individualized medicine. What makes this concept particularly topical at this juncture is the fact that we have an unprecedented capability to analyze an individual's genome by next generation sequencing, either entire genome analysis or a subset of it through whole exome sequencing.

Epidermolysis bullosa (EB) is a group of heritable blistering diseases in which spectacular progress has been made over the past two decades in identifying the underlying molecular defects, and it is now known to be caused by mutations in 18 distinct genes. Detailed knowledge of the specific mutations has provided molecular confirmation of the diagnosis and allowed subclassification of EB with prognostic implications. Identification of mutations can also have profound conse-