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10th Asia-Pacific Dermatology Conference

November 28-29, 2016 Melbourne, Australia

Rodney Sinclair

University of Melbourne and the Epworth Hospital, Australia

Breakthroughs in the Diagnosis and Treatment of Male and Female Pattern Hair Loss

All men and women experience some degree of hair loss with advancing age. When severe or premature it can cause significant distress. The diagnosis of androgenetic alopecia can usually be made clinically by visual inspection of the frontal scalp and examination of follicular units with dermoscopy. In some women further investigations may be required to identify contributing factors, comorbidities such as polycystic ovary syndrome, diabetes, hypertension and hyperlipidaemia and exclude other potential differential diagnoses such as chronic telogen effluvium and frontal fibrosingalopecia.Computer generated 3-D reconstructions of the arrectorpili muscle have delivered a new model for scalp hair growth that explains how men and women with androgenetic alopecia can lose up to 50% of their scalp hair volume without visible balding; why women develop diffuse hair loss rather than complete baldness and why hair follicle miniaturization is fully reversible in alopecia areata but only partially reversible in androgeneticalopecia.Gene associations studies have identified candidate genes and epigenetic silencing of the androgen receptor gene on the occipital scalp explain the inheritance and pattern of androgeneticalopecia. Combination therapy of oral antiandrogenand oralminoxidilwith topicalstemoxydine reduce hair shedding, arrest natural progression and stimulate partial hair regrowth.

Cosmetic camouflage, scalp micropigmentation and hair transplantation complement medical therapy.

Biography

Rodney Sinclair is Professor of Dermatology at the University of Melbourne and Director of SInclair Dermatology. He is Past-President of the Australasian Society for Dermatology Research, the Australasian Hair and Wool Research Society and the Skin and Cancer Foundation of Victoria.Prof Sinclair is the co-author of the section on Dermatology in the Oxford Textbook of Medicine, the Hair Chapters in Rook and Bolognaand lead author of Therapeutic Guidelines- Dermatology. He has written 13 textbooks of dermatology, and has over 400 research publications. Sinclair Dermatology conduct clinical research in psoriasis, hair loss, urticaria, atopic dermatitis, hidradenitissuppurativa, and skin cancer prevention and treatment as well as laboratory research into stem cell biology, regenerative medicine and gene discovery.

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Yohei Tanaka

Clinica Tanaka Plastic, Reconstructive Surgery and Anti-aging Center, Japan

Anti-cancer therapy using water-filtered broad-spectrum near-infrared

Radiation oncology is a medical specialty that involves treating various types of cancers with radiation. The radiation therapy used in treatment obtains radioactive energy from X-rays, protons or other types of energy. Near-infrared is electromagnetic radiation with wavelengths longer than those of visible light. As actively proliferating cells show increased sensitivity to near-infrared, near-infrared has been extensively investigated for its applications in cancer detection and imaging. I have elucidated that water-filtered broad-spectrum near-infrared has various biological effects including stimulation of collagen production, long-lasting vasodilation, relaxation of dystonic and hypertrophic muscles and anti-cancer effects through our histological and clinical investigation. Water-filtered broad-spectrum near-infrared can significantly suppress proliferation of various types of cancer cell lines and significantly inhibit the growth of transplanted cancer cells. In our previous studies anticancer therapy using water-filtered broad-spectrum near-infrared treatments was equally or more effective than chemotherapy and marked evidence of *in vivo* tumor apoptosis was observed in near-infrared-treated tumors. We have reported that water-filtered broad-spectrum near-infrared induces drastic non-thermal DNA damage of mitotic cancer cells without damaging non-mitotic normal cells. Furthermore, near-infrared can be easily administered, regulated and precisely delivered only to the targeted areas, which enables the induction of anti-cancer effects with a minimum level of discomfort and side effects. Therefore, I believe that water-filtered broad-spectrum near-infrared treatment may be beneficial for treating cancer. I would like to introduce the various biological effects of water-filtered broad-spectrum near-infrared and a potential application for treating various types of cancers.

Biography

Yohei Tanaka is one of the leading Plastic Surgeons in Japan. He directs his clinic, Society for Near-infrared Rays Research and International Photobiological Society. He conducts many researches as a Visiting Professor of Niigata University of Pharmacy and Applied Life Sciences and Lecturer of Tokyo Women's Medical University. He has published over 20 peer-reviewed papers in English and has edited 2 international open access books regarding near-infrared. His goal is to discover the most effective near-infrared wavelengths for rejuvenation and anti-cancer therapy and to further study solar near-infrared and how best we can protect ourselves against its photoaging.

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Patrik J Tosenovsky

University of Western Australia, Australia

Endovascular Deep Vein Reconstruction improves Leg Ulcer Healing

The aim of this study was to analyse how safe and reliable is iliac vein stenting in patients with non-thrombotic iliac/femoral vein lesions. Prospectively maintained database of 50 consecutive patients was analysed. Total 53 iliac veinswere stentedfor non-thrombotic lesions (compression of iliac vein) between 2011-16. Patients suffered from variety of symptoms including intractable swelling (C3), healed ulcers/lipodermatosclerosis (C4), active venous ulcer (C5), venous claudications or a combination of symptoms. Patients median age was 72 years (range 22-90), male to female ration 21:29, median follow up was 8.2 months (range 1 to 36 months). Perioperative mortality was 0%, surgical complication rate in 30 days was 2 % (1 stent thrombosed; primary stent patency rate was 96%), 2 patients developed a non-surgical complication during first 30 days.

Sixty eight percent of patients with active leg venous ulcer (C6) healed within 12 weeks post intervention.

Conclusion: Non-thrombotic iliac vein lesion stenting is safe and reliable and it might be suitable for selected group of patients with advanced skin changes due to venous hypertension.

Biography

Vascular and Endovascular surgeon, Patrik J. Tosenovsky provides services for all vascular patients, sub-specialising in chronic venous disease, diabetic foot and vascular access. Patrik performs sub-specialty procedures including; deep vein reconstructions through keyhole surgery for patients with severe post-thrombotic syndrome, surgical management of extensive DVT, laser and sclerotherapy for varicose veins, micro-vascular procedures, including free tissue transfer for non-healing ulcers.Trained in Europe as a vascular and transplant surgeon, Patrik has practiced as a consultant since 2000. He holds a fellowship from the European Board of Vascular Surgeons, which he completed in Amsterdam, and a PhD in diabetic foot. He completed his FRACS in Sydney. Patrik has always been active in research and teaching at both undergraduate and postgraduate levels. He is currently participating in an early stage clinical study in Western Australia that will look at innovative diagnostic tools for arteriovenous fistulas for patients on haemodialysis.

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Shaofeng Yan

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Application of molecular tools in diagnosis and treatment of cutaneous melanoma

Melanoma is one of the most aggressive types of skin cancer. Histopathological criteria sometimes may be inadequate in differentiating difficult melanocytic lesions. Treatment for advanced melanoma cases still remains elusive. New development in molecular testing technologies is useful for improving diagnosis. New therapeutic approaches based upon a growing understanding of the underlying molecular abnormalities have been used in advanced malignant melanoma recently. Single nucleotide polymorphism (SNP) microarray analysis can accurately detect copy number changes and aid in improving differentiation of malignant melanoma from benign melanocytic proliferation. Next-generation sequencing (NGS) technologies have enabled detection of key genetic mutations for targeted therapy. Here we share our experience of application of SNP microarray analysis in differentiation of malignant melanoma from benign melanocytic proliferation. Furthermore using NGS testing for a 50 gene panel, we have identified numerous variable mutations, which may represent potential targets for future therapies in patients with advanced melanoma.

Biography

Shaofeng Yan has received her MD degree from Peking Union Medical College and PhD degree from University of Washington at Seattle. She has completed Anatomic and Clinical Pathology Residency at Dartmouth Hitchcock Medical Center and a combined Harvard Dermatopathology Fellowship at Massachusetts General Hospital, Brigham Women's Hospital and Beth Israel Deaconess Hospital. She is currently the Director of Dermatopathology Section and Program Director of Dermatolopathology Fellowship Program of the Department of Pathology at Dartmouth Hitchcock Medical Center.

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Vikash Sewram
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The burden of melanoma in the Western Cape province of South Africa: Provision of a platform for evidence-based research

Age standardized incidence rates of 15.88/100000 and 12.68/100000 for melanoma in South Africa have been reported nationally for Caucasian men and women respectively. The incidence rates in the Cape Town region of the Western Cape Province however are in excess of 60/100000. Cutaneous melanoma (CM) has the highest incidence in Caucasians, followed by the persons of mixed ancestry and a considerably lower incidence in both the Black and Asian population. Over the years, the rates of melanoma has been increasing and to further study this disease the African Cancer Institute (ACI) at Stellenbosch University has embarked on the establishment of a melanoma research platform that encompasses primary prevention, behavioral sciences, genomic research and public policy. Despite numerous treatment options becoming available, drug access remains a limiting step and melanoma prevention and control remain a core focus through the extensive network of partners within the public and private sector organizations. Research within the Division of Dermatology has commenced on the molecular biology of hand and foot melanoma, also known as acral melanoma (AM), which appears to be a clinically distinct variant of melanoma. This variant of melanoma represents the most common expression of melanoma in the Black population and has a 5-year survival rate of 80.3%, lower than for other forms of melanoma. This is thought to be a result of delays in diagnosis. Acral melanoma is also thought to have unique patterns of genetic mutation when compared to other forms of cutaneous melanoma. The current studies aim to identify molecular alterations that drive tumorigenesis in AM in Southern Africans. It is anticipated that this study will help classify high from low risk AMs followed by the development of a molecular predictive test and to characterize the clinical and histological features of AM in our population. By harnessing the collaborative intellect of individuals, groups and institutions throughout the region and abroad, the ACI seeks to strengthen and accelerate the translation of melanoma control knowledge into public health action.

Biography

Vikash Sewram is the Chairperson of the Ministerial Advisory Committee on the Prevention and Control of Cancer in South Africa, the Founding Director of the African Cancer Institute and Professor of Community Health at the Faculty of Medicine and Health Sciences, Stellenbosch University, South Africa. He has obtained a PhD degree in Medicinal Chemistry and Physiology from the University of Natal in 1998, an MPH in Cancer Epidemiology (with distinction) from the School of Public Health and Family Medicine, University of Cape Town in 2002 and a PhD in Public Health: Cancer Epidemiology from the same university in 2007. In 2009 he was nominated to the Academy of Science of South Africa and in 2014 to the Permanent Scientific Committee in the Oncology Section of the World Organization for Specialized Studies on Diseases of the Esophagus. He has spent time abroad as Visiting Scientist at the International Agency for Research on Cancer in Lyon, France; School of Public Health, University of Michigan, USA and the Cancer Council NSW in Sydney, Australia. His research achievements have earned him 10 national and 9 international research awards and have resulted in numerous national and international collaborations, peer-reviewed publications, research grants and postgraduate student supervision.

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Yohei Tanaka

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The necessity of solar near-infrared protection

Over half of the solar energy consists of near-infrared and intensive or long-term solar near-infrared exposure induces photoaging. Despite the wide prevalence of a variety of ultraviolet blocking materials, such as sunscreen, sunglasses, glasses, films, umbrellas and fibers that are useful in protecting the skin against ultraviolet exposure, solar near-infrared cannot be blocked and the necessity to protect against solar near-infrared has not been well recognized. Solar near-infrared can penetrate the skin and the sclera and affect the deeper tissues, including muscles, lens and retina with its high permeability. I have elucidated that solar near-infrared can induce various biological effects. Continual long-term exposure to solar near-infrared performs as an aging factor. Consequently, solar near-infrared can induce various kinds of tissue damage and diseases such as undesirable photoaging, long-lasting vasodilation, long-lasting muscle thinning, sagging and skin ptosis and potentially photocarcinogenesis, when biological solar near-infrared protection is not achieved. To clarify the necessity to protect against near-infrared, I assessed cell viability of human fibroblast cells after near-infrared treatment using 2 sets of transparent polycarbonate plates, one to block ultraviolet and the other to block both ultraviolet and near-infrared. The cell viability was significantly decreased after near-infrared irradiation in near-infrared treated cells without a protective polycarbonate plate and near-infrared treated cells using the polycarbonate plate that only blocked ultraviolet, whereas both ultraviolet and near-infrared protected cells were not damaged. Therefore, I believe that protection from not only ultraviolet but also near-infrared should be considered to prevent tissue damage.

Biography

Yohei Tanaka is one of the leading Plastic Surgeons in Japan. He directs his clinic, Society for Near-infrared Rays Research and International Photobiological Society. He conducts many researches as a Visiting Professor of Niigata University of Pharmacy and Applied Life Sciences and Lecturer of Tokyo Women's Medical University. He has published over 20 peer-reviewed papers in English and has edited 2 international open access books regarding near-infrared. His goal is to discover the most effective near-infrared wavelengths for rejuvenation and anti-cancer therapy and to further study solar near-infrared and how best we can protect ourselves against its photoaging.

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