E - Poster

Dermatology Summit 2019
Wound Care 2019





Joint Event on

2nd Global Summit on

Dermatology and Cosmetology

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Wound Care, Tissue Repair and Regenerative Medicine

September 09-10, 2019 | Edinburgh, Scotland

Randomized, blinded, split-face trial to assess the brightening efficacy of liquid crystal retinol serum in two different concentrations, both in application treatment and with sonophoresis

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Background: Retinol modulate the amount of melanin in the epidermis by directly acting on melanocytes and epidermal keratinocytes. Topical application of retinol reduces the transport of melanosomes, which leads to rapid loss of melanin through the skin. An appropriately designed cosmetic product with retinol and regimen of treatment can improve facial hyperpigmentation appearance with improved tolerability.

Objective: We sought to evaluate the brightening efficacy and tolerability using a 0.3% and 0.5% novel, liquid crystal formula of retinol.

Methods: The formula of serums were applied once a day to the face for a period of 12 weeks, N=37. The treatment with sonophoresis were carried out once per week for 7 weeks, N=16. Evaluation were conducted at days D(0) baseline and after the treatment, D(84) and D(49), respectively. Multi Probe Adapter (MPA) system and Fotomedicus imaging system was used to assess the efficacy of treatments. The VAS method enabled the results to be determined by three independent specialists. The study was approved by the Bioetic Commission No. RNN / 281/16 / KE 2017 and No. KE / 229/19.

Results: Skin hyperpigmentation and uneveness of color of skin surface gradually decreased over the treatments, both left and right part of the face. In VAS assessment skin discoloration was reduced. Mild side effects appeared in several cases, mainly after the first sonophoresis treatment with 0.5% retinol and was more intense on the left part (0.5%) during the whole application treatment. There were no significance changes between left and right side of the face ($p<0.05$).

Conclusions: Regular use of retinol both in application and with sonophoresis results in brightening of the skin. However, less hypersensitivity and lower intensity of side events occurred on the right (0.3%) in the treatment with sonophoresis. Moreover, the concentration of the retinol does not significantly affect brightening of the skin. It could suggest that formulas based on lower concentrations of retinol might be used to offer comparable activity while reducing the chance of side effect reactions.

Speaker Biography

Malwina Zasada is a PhD student at Medical University of Lodz. She is the first author of original works in the field of cosmetic dermatology. She presents the results of her research at national and international conferences. She is a reviewer of scientific papers in cosmetics and dermatological journals. Within her scientific interests are cosmetic formulation and application therapy with active ingredients, i.e. niacinamide, vitamin C and retinol. She is the author of her own cosmetic product, which she has subjected to many tests, both *in vivo* and *in vitro*.

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Study on wound healing after cutaneous lesion and reconstructed autologous pigmented skin dressing (APSD) in nude mice: GLP-study

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Authors develop a process of *in vitro* skin reconstruction from locally anesthetised patient's biopsies. This process is oriented though applications with patient presenting cutaneous defect as chronical wounds, burn injuries or congenital melanocytic nevus. One step of this development process is reconstructed skin production under Good Laboratory Practices (GLP). Subsequently, application of Autologous Pigmented Skin Dressing (APSD) on immunodeficient mouse model, demonstrates its harmlessness and functionality with required sanitary characteristics. Clinical results will be presented in this paper.

Materials and methods: This technology consists in reconstructing autologous pigmented skin on a collagen matrix such as Integra™ or Matriderm®. Skin from breast reductions was taken from the operating room and managed to the French Blood Establishment (FBE). Keratinocytes, Melanocytes and fibroblasts were extract from the biopsy harvested on patient himself and cultured for cells amplifications. On top of the collagen matrix, fibroblasts were seeded to remodel collagen and after this step, keratinocytes and melanocytes were seeded to produce the epidermal layer. APSD were produced in 3-5 weeks. The APSD (Test Item approximately 6 cm^2) and its culture media was provided by truck at 18-20°C to testing facility (about 500 km). Testing facility stored under a 37°C, 5% CO_2 humidified atmosphere for up to 24 hours. From the Operating room to mice coverage, skin, cells and reconstructed skin were identified and traceable. From July 2018 to July 2019, 4 groups of 7 mice were implanted. For each group, 6 mice were treated with test item and one or two mice with collagen matrix alone as control. Under general anesthesia defects (3x2 cm) on dorsum of mice was done and covered with APSD or collagen matrix alone. This study was conducted according to GLP and EMEA EMEA/CHMP/410869/2006 31/07/2007) guideline. Wound healing, clinical behavior, any symptom, tumor development, and mortality sign were notice every day. Weight, food and water consumption were notice every week.

Results: 1 mouse did not survive to surgery. Groups 1, 3 and 4 healed well. Follow up demonstrated, a good integration of APSD with minor retraction and a diffuse pigmentation. Group 2 healed with multiples milimetric wounds, and during the healing process, skin retraction appeared which increased with weeks. All collagen matrixes (control group) didn't heal and made complete skin retraction for skin closure. Except one mice which had a nice APSD but loss of weight leading to sacrificed, the other mice grew up, drank and ate normally

Discussion: Bioengineered APSD demonstrated enthusiastic results regarding wound healing. Reconstructed skin could be easily handled and shipped far from the reconstructed area. APSD were simply immerged in cultured medium. APSD groups healed well except for one batch for which the quality of cells seeded was bad leading to thin APSD.

Conclusion: Next step will be the clinical trail. The first selected patients, which will be treated with the autologous-pigmented skin dressing, could have chronic wounds that could not be close with traditional treatment as patients with bad general condition. Phase 1 could be done in 2020 and time to market calculated for 2025.

Speaker Biography

Jean Christophe Lepivert is currently working as a consultant in University Hospital of Bordeaux, Bordeaux, France. He is also the head of burn surgery unit. His research interest lies in plastic, reconstructive and aesthetic surgery, burns, etc., He also has various research publications in the international journals.

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Granulomatous reactions of the skin

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Epithelioid granuloma is an inflammatory reaction against insoluble pathogens precipitated in the tissue. Causative pathogens of granulomatous reaction are divided to non-infectious and infectious. We present 2 cases of non-infectious granuloma and one case of infectious granuloma.

Speaker Biography

Masako Namisato is a medical doctor specialized in dermatology and is the Director of Auen Poly-Clinic, Japan.

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Contact sensitization in children aged 10 years and below: Trends in allergens in a 10 year retrospective study of 337 tested children in a single dermatology centre

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Introduction and objectives: Contact sensitization can be a cause of eczema in children. It is known that causative agents change with time. The aim of our study was to evaluate the results of patch testing in children aged 10 and below with suspected allergic contact dermatitis(ACD), for the most common allergens and trends in allergens.

Materials and methods: We retrospectively evaluated the results of 337 patch tested children 10 years of age or younger, tested with a standard series of 23 allergens between 1.1.2005 and 31.12.2014 at the Dermatology Department, University Medical Centre Ljubljana. Out of 337 children there were 145(43%) boys(M) and 192(57%) girls(F), aged between 2 and 10 years(mean 7.02). Out of all tested individuals, the three most frequent positive patch test(PPT) reactions were to nickel sulphate(12,5%), fragrance mix(8,9%) and cobalt(7,4%). We evaluated the first 5 years and second 5 years separately and examined each tested allergen for emerging trends. In the first 5 years(2005-2009 G1) there were 117 patients 42.7%(M), 57,3%(F) and in the second group(2010-2014 G2) there were 220 patients 43.2%(M), 56.8%(F). In G1 there were 44.4% and in G2 37.3% PPTs to at least one allergen.

Results and conclusions: Like some other studies we did not find a correlation between sex and a PPT(p=0.55) and nickel remained the most common allergen in both groups(G1:11%, G2:13%). By comparing the two groups we found an increase in the incidence of PPTs in cobalt(G1:5%, G2:9%), peru balsam(G1:1%, G2:4%), fragrance mix(G1:6%, G2:10%) and a decrease of PPT in para-phenylenediamine(G1:8%, G2:4%), neomycin(G1:8%, G2:5%), lanolin(G1:7%, G2:4%) and sesquiterpene lactone mix(G1:5%, G2:1%). We found a statistically significant decrease in PPT to sesquiterpene lactone mix(p=0.015). It may be postulated that the decrease in sesquiterpene lactone mix may be due to a decreased time spent outdoors in this age group.

Speaker Biography

Hrvatin Stancic Bor has received his medical degree at the age of 24 from the University of Ljubljana, Medical Faculty. During and after his studies he has attended several international elective internships at Imperial College London, at the University of Padua, at the University of Bologna, at Memorial Hermann–Texas Medical Center and at Dr. M Djamil Public hospital, Padang Indonesia. He has attended a number of congresses in the field of Dermatology and furthermore organized and presented at Melanoma: from A to E congress for students and residents.

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Study of prevalence and associated risk factors of HIV/Syphilis co-infection among Tricycle (Keke) drivers in Port Harcourt Metropolis of Rivers State

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The study investigated the prevalence and associated risk factor of HIV/Syphilis co-infection, among tricycle (Keke) drivers in Port Harcourt Metropolis of Rivers State, Nigeria. Convenient random sampling research design was explored during the study population recruitment, hence a total of 150 blood samples were collected from the subjects, with an average age range of 20 - 55 years and also, their demographic characteristics were also obtained through well-structured questionnaire. Two (2) mls of venous blood were collected from the subjects, after verbal consent was obtained, and the blood was dispensed into a plan sample bottle. The obtained serum after centrifugation at 2500 rpm was used to assay for HIV and Syphilis antibodies respectively. The rapid screening kits used for screening HIV and Syphilis were Determine™ and Uni Gold™ (Alere Medical Co Japan; Trinity Biotech Plc Ireland) and Syphilis Ultra rapid screening kit (Skytec, USA). However, out of 150 subjects assayed for HIV co-infection with syphilis, 148 (98.7 %) were negative while 2 (1.3%) were positive and were recorded as the overall prevalence of the study. The prevalence of syphilis found among participants was 4 (2.7%) while that of HIV was 2 (1.3%). This study revealed a moderate high prevalence of HIV co-infection with syphilis. Furthermore, the correlation analysis among possible potential risk factors revealed that Age, Education, Employment status and Access to Health centres were not possible potential risk factors to the infection, however, Previous cases of STD, Syphilis status and HIV status of infection among the subjects were possible risk factors at < 0.05, thus, it is therefore, strongly recommended that more proactive and preventive measures should be employed at all levels of governance to control the spread of HIV/Syphilis co-infection in Rivers State, especially in the rural communities where access to Health education and functional health care facility still remains a massive challenge.

Speaker Biography

Obioma Azuonwu works in the department of medical laboratory science and is a faculty of science at Rivers State University of Science and Technology located at Nkpolu, Port Harcourt, Nigeria. His research interests are in the healthcare and its allied regions.

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Accepted Abstracts

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A Look at placental tissue allografts in wound healing and musculoskeletal injuries: Protocols for successful outcomes

Bruce Werber

BioStem Life Sciences, USA

Musculoskeletal trauma and wound healing acceleration utilizing Rheo, a cryopreserved amniotic fluid, Wharton's jelly, Extra-Cellular Matrix (ECM) allograft, minimally manipulated via the AnuSureTech proprietary process.

Maintaining the functionality of healthy placental tissue containing extracellular matrix and bioactive cytokines (growth factors, chemokines), intracellular messengers (miRNA, Exosomes) and cellular components in a cryopreserved injectable allograft. It is the combination of the amniotic fluid, cellular components, Wharton's jelly, ECM, cytokines producing a immunomodulatory, and anti-inflammatory effect. That enhances the recipients, tissue regenerative ability and providing significant value in pain control, orthopedic pathologies, organ system pathologies.

The bioassay results presented in this paper demonstrate that the AnuSureTech process is a significant advancement in placental tissue processing providing high levels of cytokines, growth factors, cellular components and ECM after processing and sterilization.

Case study discussion of specific protocols to utilize this regenerative allograft in order to achieve optimal success in a variety of orthopedic, wound and cosmetic indications. Allowing their use in regenerative medicine highly effective and safe.

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Business strategy, advance technology, patents description and medical industries update

Carolina Restrepo

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Objective: The objective of this study is to assess the magnitude of the problems that is facing the medical industry in the entire world today while intending to assess the business implications of a total cost approach to managing health.

Methods: A database was developed by collect medical information and claims data by performance a questionnaire on business measures, outcomes and aftermath analysis by speciality. In addition the integration of history and how the medical field is moving daily on the markets.

Results: the results are measure with mathematicals equations in every place with statistics and exact accurate information. 1) The medical field need to update the books by speciality with a group of experts, editors and publishers. 2) Some medical equipment should have some restriction, we need to discuss the limitations and the equipment improvement need it. 3) the medical field has to be practice equally and with the same concepts all over the world and most importantly have to be regulate and control by Law in every step.

Conclusions: This study demonstrates that Integrated information in medicine with all the specialities and other professions and knowledge really made a tremendous impact in the industry. Therefore, we are obligate to be update with the Information and be sure is accurate and knowable.

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Surgical site infections: Incidence and impact on healthcare resources

Charlotte Munday, A Singh and **A Khanna**

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Statement of the Problem: Surgical site infections (SSIs) are infections of the incision, organ or space that occur in the 30 days following surgery. 5% of patients undergoing surgery develop SSIs. They are associated with significant morbidity and mortality. SSIs pose a heavy financial burden, prolong inpatient stay, and negatively impact quality on life. Numerous factors such as obesity, ASA score, operation duration and contaminated/dirty wounds are associated with SSIs. Attention therefore to pre, intra, and post-operative risk factors are essential in reducing their incidence. The purpose of this audit is to identify the incidence of SSIs occurring in general, vascular colorectal and breast surgery over a 1-year period (1st Jan – 31st Dec) and to identify techniques that may reduce occurrence.

Methodology: Retrospective data were collected on surgical patients that developed SSIs in 2018. Independent predictors of SSIs were evaluated including type of operation performed and use of intra/post-operative antibiotics. Consequences of SSIs were then reviewed involving wound swab utilisation, antibiotic duration, use of further imaging, subsequent surgical intervention and prolongation of hospital stay.

Findings: 3996 operations were performed. 58 SSJs were identified (incidence of 0.015%). 79% received intraoperative antibiotics. 51% of patients had wound swabs taken. 11 patients had antibiotics prescribed according to sensitives. 30 readmissions, 12 further operations and 27 additional scans were identified. 143 extra bed days were calculated. 402 days of antibiotics were prescribed.

Conclusion and Significance: The consequences of SSIs are multifactorial. More focussed antibiotic prescribing is needed according to wound swab results and sensitivities. The duration/indication for antibiotics and inclusion of SSIs on discharge summaries require improved documentation. Follow up of patients discharged is recommended to identify SSIs treated in the community, a potential source of bias in this study.

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Nursing hyperbaric patients in NHS Scotland: Challenges under pressure

Leanne Duffy and **Michal Szygula**

NHS Grampian, Scotland

NHS Scotland Hyperbaric Medicine Service: NHS Grampian hosts the NHS Scotland nationally designated hyperbaric service in Aberdeen. The hyperbaric medical unit in NHS Grampian is a BHA category 1 unit which means that we have the ability to treat critically ill patients in an intensive care setting. In this session we will discuss our national treatment indications (excluding diving therapies) and set out our processes for delivering a national service. We will then go on to discuss the practical challenges of service delivery.

The Nursing Challenge: Nursing patients in the hyperbaric chamber presents particular challenges. These include physical challenges working in a tightly confined space, the effects of pressure on people and equipment during the delivery of care and particular medical challenges with the varied nature of conditions that we treat. In addition the resources that are immediately available in a hospital environment may not be immediately available in the hyperbaric chamber and there are limits on the equipment we can use due to risks from pressure and fire. We will discuss our staffing model which supports this treatment capability.

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Our experience in developing hyperbaric oxygen therapy in management of unhealed wounds

Michal S Szygula, Anoop Kumar, William Brampton, Roland Armes and **Ruth Stephenson**

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Unhealed wounds are a significant issue for patients with multiple co-morbidities, leading quite often to disability or severe decrease of quality of life. Patients should be offered every possible treatment option of treatment to be able to recover from their condition. Use of Hyperbaric Oxygen Therapy (HBOT) in wound management is a well established method worldwide, in UK it is still a developing option.

Based on multiple case reports and multicentre studies we established inclusion criteria for HBOT for patients whose wounds are not healed for longer than 6 weeks of standard treatment. Patients are offered 30-40 sessions of HBOT daily during 5 days working week. Their condition is reviewed on a regular basis and alterations to the plans apply when appropriate.

Based on literature search and our experience we can say that HBOT is a very effective and cost efficient method supporting wound healing. Careful inclusion end exclusion review of patients is important to avoid unnecessary risk of side effects and ensure effectiveness of the treatment.

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Breaking the stigma and empowering all clients to feel confident about getting aesthetics treatments done

Poonam Jagdev

VPaesthetica, UK

Many clients who come through our doors have already made their mind up to have cosmetic non-surgical or surgical treatments done. Why is it then, that there is a tremendous amount of stigma and apprehension in certain cultures, why do some women and men feel so reluctant and apprehensive to go ahead with any treatment they would like to get done to help them feel more confident or charismatic and captivating? Over a period of time it has become apparent that cosmetic aesthetics is still a taboo and discredited in predominantly distinct cultures including Asian, Indian Pakistani and South Indian. I believe, if we can uncover what our client's vision is for the outcome of their treatment and empower men and women to feel confident without being anxious about the repercussions from society then many of our clients will be motivated, encouraged to have the autonomy and confidence to transform their lives.

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Lack of Knowledge about Sexually Transmitted Diseases (STDs): Implications for STDs prevention and care among dermatology patients in an urban city in Vietnam

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Sexually transmitted diseases (STDs) are a substantial global burden of diseases, especially in developing countries. Lack of awareness of STDs may lead to a delay in treatment. This study aimed to assess knowledge about STDs and the associated factors among dermatological patients. Method: A cross-sectional study was conducted among 622 patients at Vietnam National Hospital of Dermatology and Venereology (NHD). Structured questionnaires were used to investigate the knowledge about STDs. A multivariate Tobit regression was employed to determine factors associated with knowledge about STDs. Results: The percentage of patients knowing that syphilis was an STD was highest (57.8%), followed by herpes warts (57.7%) and HIV/AIDS (57.4%). By contrast, 26.6% and 17.2% of patients knew that chlamydia and hepatitis C were STDs. The most commonly stated symptom of STDs was purulent genital (53.5%). Nearly two-thirds of participants were aware of the curability of STDs, and 34.7% knew about vaccines for STDs. Living with partners, young age, and acquired knowledge of STDs via the Internet, social networks, and health staff were positively related to having better knowledge about STDs. Conclusion: Based on the results of this study, peer education, informal conversations within clusters, mass community campaigns through the Internet and social networks, and the use of online health care providers should be promoted in order to improve awareness of STDs.

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Contemporary protocols and regenerative medicine approaches in the chronic wound treatment

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Introduction: Despite significant advances in medicine there is a growing need to develop novel strategies in the management of chronic wounds. The use of cell-therapies gathered attention in a wide range of diseases in the last decade and due to its potential to accelerate the wound healing process found an important place in clinical application in the field of chronic wound treatment.

Aim: To show the latest protocols, research results and technical achievements in the application of autologous therapies in order to stimulate cell migration, proliferation, differentiation, microcirculation, collateral circulation and new tissue formation and overall to determine whether autologous PRP promotes the healing of chronic wounds.

Method: PRP (Platelet Rich Plasma) and PRP gel represent autologous substrates derived from the patient's own blood. Strict quality control analysis of each PRP sample was conducted in order to confirm platelet number 6-8 folds higher than baseline in applied substrate. One step therapeutic treatment is conducted along with standard surgical debridement of the wound 2-3 times per a week, depending on the current patient's condition.

Discussion: The use of PRP has yielded great results in chronic wound treatment and with development of biotechnology and the possibility to adjust PRP substrate to each patient specific condition significant advances in this field are noted.

Conclusion: New protocols based on combination of surgical techniques and personalized regenerative medicine therapies enable achievement of significantly better results which represent important steps in managing one of the greatest challenges in ageing population worldwide that is tightly connected to numerous conditions that represent modern lifestyle burden.

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