



Poster abstracts

P001 - Quality of Life of Adolescents with Facial Acne Vulgaris before and After Treatment in Nigeria
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Facial acne vulgaris is common in adolescents and is known to affect their Quality of Life (QOL). This impairment of QOL in has been documented to improve with treatment. In Nigerian adolescents who have facial acne vulgaris, it is not known if QOL improves with treatment. The aims were to determine if the QOL of Nigerian adolescents who have facial acne vulgaris improves with treatment. The objectives were to identify the socio-demographic and disease related variables that affect this improvement in QOL.

Students were clinically examined for facial acne vulgaris with severity graded using the combined acne severity grading scale (CASS). Quality of life before and 6 weeks after treatment with 5% benzoyl peroxide was assessed using the Cardiff Acne Disability Index (CADI). A structured questionnaire for socio-demographic variables was administered to the students.

Post-treatment, the median CADI score improved to 2 from a pre-interventional score of 4. This change was statistically significant at $P < 0.001$. Improvement was observed in all the components of the CADI with the highest level of improvement being in the assessment of "how bad the students thought their acne was now" with a percentage reduction from 81.4% to 54.6% and this improvement was in more males with improvement from 92% to 65%. Also, post-treatment, moderate to severe clinical severity of acne improved from 49.1% to 10.3% and was statistically significant at $P < 0.001$.

Treatment of facial acne leads to improvement of QOL with specific affectation of perception of facial skin appearance and how bad the adolescents feel the acne is. Treatment of acne also leads to a reduction in severity of acne.

P002 - Partnership with hair stylists in Keffi, Nasarawa State Nigeria
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Prevention and early detection is important in the management of scarring alopecia. Hair stylists are at the fore front in hair care. It is important that dermatologists and hair stylists build partnership to prevent hair diseases. Our objectives were to determine the knowledge, attitude and practice of hair stylists towards hair diseases and to establish partnership between the dermatologist and hair stylists.

This was a cross sectional interventional study carried out among hair stylists in Keffi, Nasarawa State. Hair stylists in Keffi were invited for a workshop. The workshop focused on identification and prevention of common hair disorders. A pre-test and post-test were administered before and after the workshop. The data was analysed using SPSS 16.

35 hair stylists participated in the study. 25 (71.4%) were males while 10 (28.6%) were females. 14(40%) identified hair loss as the commonest problem resulting from hair styles. 32 (91.4%) had no method for the examination of the scalp. 35 (100%) are willing to refer their clients to a dermatologist. 28(80%) had



recommended that their clients should see a dermatologist for hair problems. After the workshop, 34 (97.1%) have a method for examining the scalp in the post-test analysis compared to 3 (8.6%) in the pre-test ($P = 0.00$). 33 (94.3%) believes that hair style contributes to hair disorders in the post-test compared to 25 (71.4%) in the pre-test ($P = 0.011$).

Stylists have poor practice towards hair diseases. They are willing to partner with dermatologists to reduce the burden of hair diseases.

P003 - Sarcoidosis - "the great imitator"

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Sarcoidosis is a systemic granulomatous disease of unknown cause. Sarcoidosis can affect virtually every organ of the body. The lung is the most commonly affected. Other organs affected are the liver, skin, and eyes. Cutaneous lesions are present in 20-35% of patients.

A 24 years old female patient from Gonder, northern part of Ethiopia is described with diagnosis of cutaneous Sarcoidosis followed at ALERT hospital from November 2013- February 2014.

Initially the patient had been treated with 2 cycles of antileishmanicidal drug having seen Leishmania Donovan bodies on Slit Skin Smear with no much improvement after which elaborate and extensive investigations were done for Sarcoidosis.

Treatment was offered accordingly with satisfactory results.

Given the wide variability of clinical manifestations, Sarcoidosis is one of the "great imitators". This case signifies that it is necessary to consider clinical, epidemiological, radiographic, laboratory and histopathological criteria to make the diagnosis.

P004 - A prospective study analysing the Inflammatory Markers in children with Atopic Dermatitis in the Greater Tshwane Region

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Atopic dermatitis (AD) is a chronic inflammatory disease of the skin commonly affecting children. AD is a disease of skin barrier dysfunction.

The exact cause of the disease is unknown. Genetics, environmental and immunological factors are known to interact in the pathophysiology of AD. Its severity is classified as mild, moderate and severe. The objective of this study is to analyze the levels of the inflammatory markers C-reactive protein (CRP), mean platelet volume (MPV) and ceruloplasmin in children with AD in the greater Tshwane district, and also to compare the inflammatory markers levels in different groups in relation to the severity of the disease.

A prospective study involving 74 children between the ages of 1 -13 years known to have Atopic dermatitis. Severity assessment using SCORAD index on consultation day and blood taken for inflammatory markers done. The levels of inflammatory markers were analyzed. The levels were correlated against severity group, age and gender.

Levels of CRP showed significant abnormality in the moderate group compared to mild and severe AD group. There is no significant difference in MPV over severity, age and gender. No significant difference in the level of ceruloplasmin against age and severity.



Our study is different from the study by Karabudak et al in that there is no difference in the levels of inflammatory markers against severity groups, age and gender.

Acknowledgement: DSSA has funded the research.

P005 - Successful treatment of Acne Keloidalis Nuchae by excision with healing by secondary intent, in Durban South Africa

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Acne keloidalis nuchae (AKN) is an idiopathic inflammatory folliculitis resulting in keloidal scarring and cicatricial alopecia over the nuchal area. The symptoms and psychosocial stressors of these keloids have a significant negative impact on patients' self-esteem and quality of life. Treatment of AKN involves medical and surgical techniques but is often difficult with overall suboptimal outcomes.

This is a retrospective case series of three patients with AKN treated with local excision and healing via secondary intention.

All three patients had complication free healing with contraction of the scar line and overall satisfactory outcome.

Excision of AKN is an effective treatment resulting in resolution of symptoms and prevention further extension.

P006 - Case report of a patient with Gestational Gigantomastia

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Gestational gigantomastia is a rare complication of pregnancy where the mother develops massive enlargement of breasts with severe complications of decreased motility, respiratory compromise, local breast haemorrhage and necrosis, and even death. It is hypothesized to be due to an abnormal response to pregnancy hormones.

A single case is presented of a patient who presented with this unusual pregnancy complication and the management of this patient.

A patient presented in the first trimester of her second pregnancy with massive breasts that were painful and enlarging. Ultrasound and septic markers revealed no underlying infection. Despite supportive care she developed breast ulcerations and areas of haemorrhage requiring surgical intervention, she also became bedbound. The patient was counselled and opted for a termination of pregnancy with subsequent partial resolution of the gigantomastia. A breast reduction was later performed with overall satisfactory outcome.

Gestational gigantomastia is a rare complication of pregnancy with severe potentially fatal side effects. Recognition is important for diagnosis for referral for appropriate management with partial or complete hysterectomy.



P007 - Wound healing using blood component in resource poor setting in Ethiopia
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In Ethiopia chronic non-healing wound as a consequence of trauma, burn, vascular and other factors affects millions people. Further, lack of awareness, poverty and substandard medical care complicate the wound, renders the condition resistant to conventional treatment.

We present a series of wound care in OPD using ultrasound wound debrider and platelet rich growth factors.

28 patients with chronic wound, 24 of them were men and 4 women with an average age of 37(14 years to 70 years old) and 22 (87.6%) of them leave in the street. 9 of them have wound secondary to trauma (TU), 9 of them venous ulcer (VLU), 6 ulcer from mixed etiology(UME), 2 from burn and 2 diabetic ulcer(DU). The average wound area was 16.9 ± 10.3 cm² and average wound duration of 6.2 years (5 month to 18 years). Ultrasound debridement and PRGF received PRP flat clot applications as outpatient. We used the three stages for PRP preparation that comprises: blood collection, PRP isolation from whole blood using centrifugation and activation of platelets contained in the PRP. The volume of blood drawn from each patient was approximately half of the wound area in cm². The PRP flat clot was covered with an atraumatic mesh dressing and a secondary dressing on top of the former. The dressing frequency was once in 7 days.

Patient were evaluated weekly for about a 6-month period. In the study group, the average number of applications of PRP in one patient was 3. Complete epithelialisation of chronic wounds was achieved in 9 patients (36%) in 56.3 ± 10.3 days, 15 (53.8%) of the patients has more than 70% epithelization in 60 days (12 of them have been lost from follow up before full recovery). The method was not effective in four patients (1 VLU, 2 UME, and 1 TUs) who have stayed on treatment for 90 days.

Wound care using ultrasound debridement and blood components has been effective in patients with chronic non-healing wounds of different etiology in resource poor seething.

P008 - Impact of weather conditions on atopic dermatitis prevalence in Abuja, Nigeria
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Climatic conditions may trigger subclinical disease in predisposed individuals and also exacerbate eczematous symptoms resulting in persistence or increased frequency of atopic dermatitis (AD) flares. The aim of this study is to assess the impact of tropical weather conditions on the frequency at which atopic dermatitis patients present at the dermatology clinic of a tertiary hospital in Abuja, Nigeria; and, to find out which component of these conditions exerts the most significant effects.

Medical record of all new patients seen at the clinic within July 2015 and June 2017 was obtained. Data for monthly temperature, humidity, precipitation, cloud cover and UV index of Abuja during this period was obtained from world weather online. Univariate analyses and multiple regressions were used to assess the associations between monthly prevalence of AD and the above-mentioned meteorological variables.



Patients had a 1.6 times odds (95% CI: 1.03-2.56, $p=0.038$) of presenting with AD in the dry season as compared to wet season. Dry season was associated with higher temperatures and UV index and lower precipitation, humidity and cloud cover, $p<0.001$. Multivariate logistic regression modelling adjusting for precipitation, humidity, cloud cover and age group demonstrated that precipitation (OR=1.01, 95% CI: 1.00–1.02, $p=0.002$), humidity (OR=1.03, 95% CI:1.01–1.05, $p=0.015$) and cloud cover (OR=0.92, 95% CI: 0.88–1.02, $p=0.002$) exert the most significant effects. Also infants had 4.4 times odds of AD than adults (95% CI: 2.04-9.69, $p<0.001$).

Exposure to tropical season meteorological variables can influence the presentation of AD.

P009 - Disseminated Lymphangioma Circumscriptum

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A 12-year-old African female presented with a six-year history of lesions emanating from the umbilicus and extending peri-umbilically. Clinically she had violaceous, papillomata's nodules and translucent papules over the peri-umbilical region which oozed serosanguinous fluid. There was associated mild abdominal distension. Histology of a lesion confirmed a lymphangioma. Contrast tomography of the abdomen revealed multiple hypodense lesions suggestive of intra-abdominal lymphangiomas. Plastic surgeons have been consulted to assist with further management of her condition.

P010 - Simultaneous occurrence of Papulonecrotic Tuberculid and Erythema Induratum in a South African Child.

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Department of Paediatrics, University of Nigeria Teaching Hospital (Unth), Ituku-Ozalla, Enugu, Nigeria**

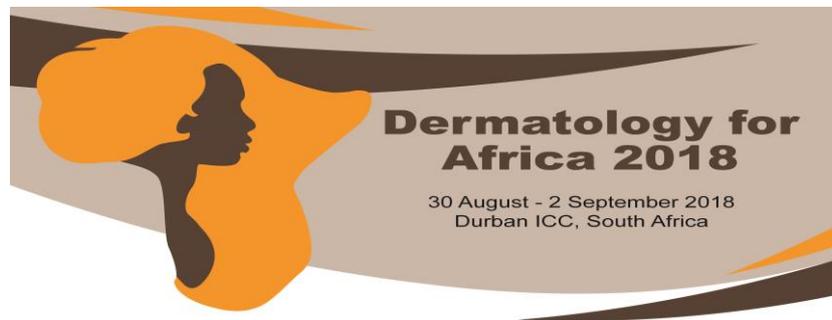
Tuberculosis (TB) is a global public health concern, especially in developing countries like South Africa. Hypersensitivity reactions to TB (tuberculids) occur rarely and their coexistence is even rarer in children. Here, we report a 4-year-old boy with coexisting atypical clinical features of papulonecrotic tuberculid (PNT) and erythema induratum (EI), accompanying pulmonary TB.

Case report and MEDLINE (Pubmed) search of the English literature using the words 'Simultaneous occurrence of papulonecrotic tuberculid and erythema induratum'

A 4-year-old boy with skin eruptions on the arm, abdomen and ears, of two weeks duration. Reddish bumps later appeared on the legs. In addition, he had cough, anorexia, nausea and malaise. Examination revealed few erythematous papules with central necrosis on the upper arm, ear helices and trunk; and symmetrically distributed non-tender erythematous nodules without necrosis on the shins and calves.

Histology of the papules revealed an intense dermal wedge-shaped necrosis while the nodule showed extensive dermal and fat necrosis with granulomatous lymphocytic infiltration which were supportive of PNT and EI respectively.

Chest Xray showed hilar adenopathy. Sputum was positive by polymerase chain reaction, for *Mycobacterium tuberculosis*. Anti-TB medications were commenced, subsequently, lesions improved. A total of only 11 cases are described in the literature with no report in an under-five.



PNT and EI can coexist with unusual clinical features in a young child with TB. Presence of erythematous nodules on the shin should prompt the need to search for PNT lesions which leads to early TB diagnosis and effective treatment.

P011 - *Emergomyces* in KwaZulu Natal

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Emmonsia is a dimorphic fungus which was isolated in South African patients as early as 1990. Initially this species was known as an *Emmonsia*-like fungus. Since then, it has been moved to a new genus, *Emergomyces* we have continued to detect new cases. We present 5 cases of *Emergomyces africanus* in Kwazulu Natal.

A retrospective chart review was performed at outpatient dermatology clinic Departments at 4 regional hospitals in Kwazulu during the period 2016 to 2017.

The Initial working diagnosis at the 4 centers were that of: -

1. Deep Fungal Infections Histoplasmosis capsulatum, Cryptococcosis, Blastomycosis
2. Cutaneous Tuberculosis
3. Syphilis. The skin lesions were biopsied and sent for haematoxylin and eosin staining, fungal culture, and to National institute for Communicable Diseases for confirmation of genetic identification.

Five patients were identified three female and two male patients with a mean age of 30 years, retroviral disease positive, presenting with crusted plaques in various distributions and were started on empirical anti-fungal treatment at their initial visit. KOH was negative. Histologically all 5 cases showed a histiocytic infiltrate in the dermis containing intracytoplasmic budding yeasts. DNA PCR showed the fungus with the genus *Emergomyces africanus*.

We report the first 5 cases of a deep fungal Infection by the species *Emergomyces africanus* in the province of KwaZulu Natal during the period 2016 to 2017.

P012 - *Keratoacanthoma Centrifugum Marginatum*

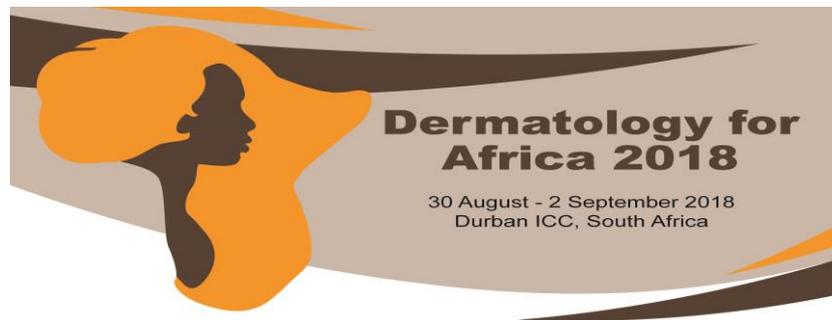
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We present Mr Kar a 53-year-old male. He presented with a 3-year history of a large verrucous nodules on the left calf. The lesion was characterized by progressive growth accompanied by central clearing and scarring.

The Lesion was sent for a biopsy for H and E, fungal and TB cultures and the following differential diagnosis where considered: -

1. Deep Fungal infection chromoblastomycosis, blastomycosis
2. Keratoacanthoma
3. Atypical Tuberculosis (Verrucous Tuberculosis)
4. Botryomycosis



Histology – An atypical squamoproliferative lesion in which there is hyperkeratosis with central plug formation and epidermal acanthosis “in keeping with a keratoacanthoma.

Patient was treated with acitretin 20mg from 16/05/17, for 6 months.

Keratoacanthoma centrifugum marginatum a rare variant of keratoacanthoma with a dramatic improvement on systemic treatment only.

P013 - Lipoid Proteinosis

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A 44 year old gentleman, diagnosed since birth with lipoid proteinosis and presented skin clinic with typical clinical features of Lipoid proteinosis which are hoarseness of voice, difficulty of swelling, skin thickening of face (leonine face) and photo aging (skin wrinkled), chelitis, papules, plaques and nodules appear on the face (including the eyelid margin) as well as in the axillae and on the scrotum, alopecia of the eye lashes and the scalp, diffuse infiltration of the tongue and frenulum (cannot protrude the tongue), dental decay with losing teeth, mental abnormality. There is no history of fits or seizures. Older sister same illness. Mother Cloete. Family from Namaqualand.

P014 - Comparing the cardiovascular risk profile of male and female psoriasis adult patient in North Central Nigeria

Bob Agwu Ukonu

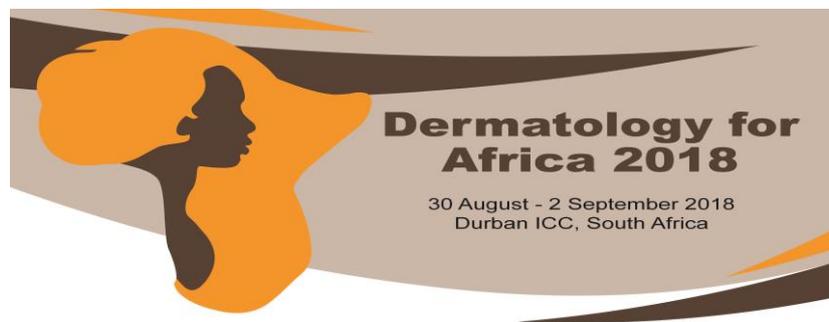
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Psoriasis is a chronic systemic inflammatory disorder which has been found to have a strong association with cardiovascular risk changes. However, there is paucity of data showing gender role and cardiovascular risk changes among adult psoriasis patients in our locale. The study aims at assessing and comparing the cardiovascular risk factors among adult psoriasis male and female.

Cross sectional descriptive study of forty (40) adult psoriasis patients was carried out at dermatology unit at the Medical Outpatient Department of University of Abuja Teaching Hospital from April 2016 and March 2018. Diagnoses were confirmed by histology. A proforma was designed to filling the information regarding age, sex, occupation, tribe, disease, clinical type, severity of disease, nail scalp and joint involvement. Blood pressure, body mass index, waist circumference and laboratory profiles such as fasting blood sugar, total cholesterol, high density lipoprotein and low-density lipoprotein and triglycerides were done and recorded.

Out of the 40 consecutives patients recruited in the study 25 were males and 15 were females. Mean age for male and female were 44.4 ± 15.6 and 34.4 ± 9.8 respectively. The body mass index, fasting blood sugar were higher in female psoriasis patients and it was statistically significant ($P < 0.05$), whereas, TC, HDL, TG and LDL were comparably equal in both sexes. More Males presented with chronic plaques than females while more females had nail/scalp involvement than their male counterparts.

Female psoriasis patients are more at risk of cardiovascular events than their male psoriasis patients.



P015 - Accelerated phase of Chédiak-Higashi syndrome

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Chédiak-Higashi Syndrome (CHS) is a rare, autosomal recessive disorder, characterized by partial oculocutaneous albinism, recurrent pyogenic infections (skin mucosa and respiratory system), silvery hair, severe phagocytic immunodeficiency, progressive neurological deficits. The hallmark of this syndrome is the presence of classic giant azurophilic granules in all granule-containing cells including leukocytes in blood and bone marrow. More than 80% of patient with CHS develop an accelerated phase consisting of massive lymphohistiocytic with hemophagocytosis and infiltration in most tissue. This phase is characterized by fever, jaundice, anemia, lymphadenopathy, pancytopenia and neurological signs. Only 2 cases had been reported in South Africa in the past 30 years. In this presentation, we report a 10-week-old-girl, peripheral blood examination and light microscopy of hair shaft done revealed characteristic features of the Chédiak-Higashi Syndrome.

A 10-week-old-girl, HIV non-reactive, admitted with fever and acute gastroenteritis. Also, intermittent fever since her three weeks with no admission was reported by parents. There was no history of consanguineous marriage. Physical examination revealed fever 39°, pallor, light skin, silver hair, scalp bruising, jaundice and hepatosplenomegaly and lymphadenopathy. Hematological findings on admission were multifactorial anemia (HB 5.1) with conjugated hyperbilirubinemia, leucocytes 23.61×10^9 , differential leucocyte showed neutrophil 32%, lymphocytes 59% C-reactive protein 51mg/L, (N:<10) and CMV-VL 33259 log 4.5. Light microscopy of hair shaft shows decrease melanin pigment with clumping of melanin granules.

CHS is very rare in Africa as reported in the literature, the accelerated phase can occur at any age with increased neurologic sequelae and death. Thus, light skin in infants with hematological findings should be closely monitored, particularly if febrile.

P016 - Treatment patterns, and effectiveness of anti-leishmaniasis agents for patients with cutaneous leishmaniasis at Boru Meda Hospital, South Wollo, North East Ethiopia, 2017/18

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Cutaneous leishmaniasis (CL) is one of the endemic and neglected diseases known to exist in Ethiopian highlands. However, a neglected tropical disease overshadowed by lack of effective anti-leishmaniasis agent in Ethiopia. Thus, this research aims to assess the effectiveness of on hand available agents in a single and combined pattern in Boru Meda hospital dermatology center from July-February 2017/18.

A cohort study design was employed in six treatment categories via randomly allocated cutaneous patients from three clinical types at Boru Meda hospital Dermatology department. Detailed clinical assessment, biopsy/FNAC, and skin slit smear leishmania parasite detection were done to confirm clinical suspension. Then, the intended treatment types were administered for three cycles. Finally, the data were analyzed using Epi-info, SPSS and the results presented using graphs and tables.

Among patients with mucocutaneous leishmaniasis who has taken systemic SSG with IL SSG 85.7% ($p=0.05$), systemic SSG with Allopurinol was as effective as 78.6% ($p=0.03$). Patients with DCL who took both



systemic SSG with Allopurinol 80% and systemic SSG and local therapy both cryotherapy and IL SSG had a clinical cure rate of 85.7% ($p < 0.001$). In addition, patients who diagnosed as localized cutaneous leishmaniasis and took only cryotherapy 92.3% where as those patients who had a combined local therapy of both cryotherapy and IL SSG therapy showed clinical cure rate of 96.1%.

As our study showed for any clinical type of cutaneous leishmaniasis, administering combined forms (Pentavalent antimonial with local therapies i.e cryotherapy or/and IL SSG) of anti-leishmaniasis agents had a better cure rate than single therapies.

P017 - Disseminated cutaneous histoplasmosis with laryngeal involvement in a setting of Immune Reconstitution Inflammatory Syndrome

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Histoplasmosis is a systemic mycosis caused by the dimorphic fungus *Histoplasma capsulatum*. We report a case of disseminated cutaneous histoplasmosis with mucocutaneous involvement in an AIDS patient paradigmatic of the multifaceted nature of the disease, which is an expression of the immune reconstitution inflammatory syndrome (IRIS).

Patient presentation: A 39 year old male presented with a 3 month history of asymptomatic papules and nodules with necrotic centres involving the centropacial region. The patient was diagnosed as being HIV positive a month earlier and was commenced on antiretroviral treatment. Two weeks after the development of the skin lesions, the patient complained of a sore throat and hoarseness of his voice. A fiberoptic laryngoscopy and biopsies of the skin, larynx and liver were done.

Management and Outcome: The CD4 counts increased from 2 to 124 cells/UI whilst the viral load decreased from 1million to less than 20 copies/ml. A fibre-optic laryngoscopy revealed a supraglottitis with an ulceration on the epiglottis. Histology of the liver, larynx and sections of the skin demonstrates pandermal necrotising granulomatous inflammation. Grocott-Gomori methenamine-silver and PAS stains reveal a relative paucity of intracellular, narrow neck budding fungal organisms. The patient was treated with intravenous Amphotericin B for 2 weeks followed by oral itraconazole 100mg twice a day, with an excellent response to treatment.

We are presenting this case to remind clinicians that disseminated histoplasmosis in AIDS patients may occur as an expression of IRIS. A sudden onset of hoarseness with cutaneous lesions in a patient with disseminated disease should alert one to possible laryngeal histoplasmosis. Prompt recognition and treatment will avert the potential fatal complications of this disease.

P018 - A cross-sectional observational study to analyse the clinico-demographic profile of geriatric dermatoses and assess their relationship with systemic disorders

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Advancement of medical science has prolonged our life expectancy substantially, thus increasing the geriatric population. This age group is often neglected although there is higher incidence of both systemic and skin disorders.

To analyze the clinico-demographic profile of geriatric dermatoses and assess their relationship with different systemic disorders.



250 new geriatric patients (age > 60 years) were evaluated clinically to assess the clinico-demographic profile of their dermatological disorders and determine any relationship with systemic disorders like diabetes mellitus and hypertension. Skin biopsy and other investigations were performed when necessary. We also tried to highlight any association between chronological ageing and photoaging, and effect of outdoor-indoor activity on photoageing using the Glogau scale.

Amongst 250 geriatric patients (mean age 67.9 ± 7.29 years; M:F 1.9:1), skin infections occurred most frequently (30%), followed by dermatitis (29.6%), papulosquamous disorders (18.4%) and immunobullous disorders (6.4%). Fungal infections (tinea) occurred most frequently followed by bacterial (furuncle) and viral infections (herpes zoster). Interestingly, bacterial infections predominated in the BPL group, while fungal infections in the APL group (p value=0.005, chi-square test). Allergic contact dermatitis (10%), psoriasis (9.2%) and bullous pemphigoid (2.8%) were the commonest dermatitis, papulosquamous disorder and immunobullous disorder respectively. Skin malignancy occurred least frequently (5.2%), almost half being basal cell carcinoma. Hypertension was the most common systemic association (23.2%) followed by diabetes (19.6%); although the later was significantly associated with infections (p value=0.0014, chi-square test). All patients showed age related physiological changes, the commonest being IGH (51.2%) followed by xerosis and seborrhoeic keratosis. Almost 97.6% of our patients showed signs of photoaging (wrinkling > freckles > senile purpura), mostly those engaged in outdoor activity as manifested by higher Glogau scale (p value < 0.001, ANOVA test).

More awareness is needed about the plethora of geriatric dermatoses for their proper evaluation and treatment. Screening programs for systemic disorders like diabetes and hypertension is highly recommended. Age related physiological changes should be ruled out. Outdoor activities need to be minimised to reduce photoaging.

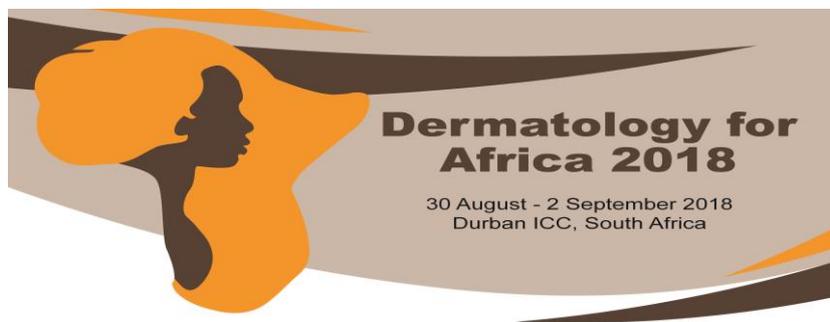
P019 - Rare case of unusual colours and perpetual silence: Waardenburg syndrome in two preterm infants

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Waardenburg syndrome is an autosomal dominant disorder of neural crest cells that was first described by a Dutch ophthalmologist in 1951. Prominent features are those of congenital hearing loss and pigmentary changes which are usually present at birth and affect the skin, hair and the eyes, making early diagnosis and evaluation very possible. Although there are a couple of case reports in the literature from the developing world, these cases were often diagnosed in school-aged children who were being evaluated for deafness and other associated cognitive impairment. We present 2 cases of Waardenburg syndrome seen in preterm infant siblings at our neonatal intensive care unit.

A female neonate, second of a set of twins delivered at 30 weeks gestational age was admitted at 12 hours of life on account of prematurity. She was found to have dysmorphic features (hypertelorism, low set ears and rocker-bottom feet) with a white forelock and bilateral heterochromia. The mother, a 26 year old chemist also had a white forelock that had been present since birth and "blue eyes" (bilateral heterochromia) but no history of hearing loss. The first twin, a male had several congenital anomalies (bilateral heterochromia, spina bifida, low set ears, hypertelorism) but no pigmentary changes of the skin or hair. They received routine care of prematurity, and the first twin was co-managed with the neurosurgery team with subsequent repair of the spina bifida. The parents were counselled extensively, and the children are presently being followed up in the clinic and have been scheduled for audiometric assessment by the otorhinolaryngologists.



Waardenburg syndrome is a rare disorder associated with considerable morbidity especially in those affected by hearing impairment. In a developing country like Nigeria, most cases are seen when complications of hearing loss have already set in. However, the highlighted cases were delivered preterm “a blessing in disguise” which ensured that they would receive specialist care and evaluation that goes beyond the basic. The enormous morbidity of a disease such as Waardenburg is a strong indicator for the development of new born screening protocols in developing countries so that children born with unusual “colours” do not have to live in a world that is “perpetually silent”.

P020 - In pursuit of the unidentified T-cell Lymphoma

Margareth Ann Olivier

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T-cell lymphomas encompass a heterogeneous collection of lymphocytic malignancies. They display a broad spectrum of clinical, histologic, immunophenotypically and genetic features. There is considerable overlap and therefore a final diagnosis is often challenging. A multiparameter approach combining clinicopathological correlation and detailed immunophenotypic studies are required to make a definitive diagnosis.

A 27-year-old Zimbabwean female presented with a 6-month history of tender tumorous nodules localized to the scalp with associated ulcerations and draining sinuses. She had a history of scalp alopecia prior to the onset of the nodules. She complained of lower limb oedema but had no other constitutional symptoms. She is known with seborrheic eczema.

Skin punch biopsies were submitted, base line bloods and HTLV1 were requested. Bone marrow and trephine were performed.

Skin biopsies revealed a diffuse infiltrate of intermediate and large-sized atypical lymphocytes in the dermis and subcutis. Pautrier microabscesses were visualised in the epidermis.

Immunohistochemistry performed highlighted LCA+, CD3+, UCHL1+, CD4+, CD99+, CD8-, CD7-, CD30-, CD56-, TdT-, ALK1-, GRANZYME B-, CD20-, CD117-, CD34-, CD68-, EBV mRNA IN-SIU HYBRIDIZATION - neg. Gene rearrangement studies exhibited a monoclonal T-cell population. Immunophenotypic analysis of the Bone marrow showed intermediate to large cells expressing CD45++, CD3++/+++ , CD4+/++. CD25+, CD2, CD7, CD8, CD30 were negative. HTLV 1 serology is pending.

These findings are not in keeping with any distinct Cutaneous T-cell Lymphoma and is suggestive of a Peripheral T-cell Lymphoma. Further investigations are currently underway to establish a conclusive diagnosis.

P021 - The nut bar - rough rider effect

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There are certain behaviours that are peculiar to prison life such as acquisition of tattoos as part of initiation into prison gangs. Homosexual practices have long been reported to be a common practice amongst inmates. The ‘nut bar’ or ‘rough rider’ effect, named after a chocolate and a condom respectively is a new practice which has been noted in male prisoners in Kwa-Zulu Natal.



This is a case series of 10 prisoners seen in two tertiary hospitals in Kwa-Zulu Natal, noted to have bizarre symmetrical penile nodules.

Of the 10 prisoners seen, four were from medium and six were from maximum security prisons. They reported that the nodules are known as the '*nut bar*' or the '*rough rider*' and are only peculiar to male prisoners. The rubber end of a toothbrush was broken off and smoothed by rubbing it against concrete into the shape of a pellet. The pellets are then inserted into the shaft of the penis via a small incision which is created with a blade. The rubber pellets give the appearance of nodules on the penile shaft - the so called '*nut bar*' effect. No anaesthetic or sterile procedure was used. No complications were noted. All males were heterosexual. According to inmates, this practice enhances sexual pleasure.

Insertion of toothbrush handle rubber pellets into the shaft of the penis gives the appearance of a natural rough rider or the '*nut bar*' effect which may be misdiagnosed as calcinosis cutis.

Although none of the prisoners reported complications, the longest duration being three years the long-term side effects are unknown and we should monitor for foreign body granulomas.

To our knowledge our case series is the first report of this practice which has only been observed amongst male prisoners.

P023 - Skin PH levels in African skin

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The knowledge of skin biophysical characteristics like skin pH is important for skin health maintenance and effective management of skin diseases. Skin biophysical parameters are known to have racial variations but very few studies document the skin pH of healthy black Africans living in Africa. The aim of this study was to determine the average pH of the skin of healthy Nigerians and the variations with gender, age and anatomic location.

1075 healthy Nigerian volunteers with no skin pathology living in Lagos, Nigeria were recruited over 9 months. The Skin pH meter 905 manufactured by Courage & Khazakha Electronics GmbH© was used to measure skin pH at 2 anatomic locations – the forehead and left volar forearm.

1075 people (611 females and 464 males; age range 1 - 85 years) were assessed. The mean skin pH was 4.87 ± 0.48 . There were statistically significant differences in the skin pH of different age groups ($p < 0.05$) and sexes ($p < 0.05$). The values obtained were compared with other studies on skin pH in literature.

The average skin pH of healthy Nigerians is slightly lower than what is documented in literature. Like other studies, there were variations with gender, age and anatomic location. The pH values from this study can serve as a reference for other studies on skin pH in pathologic skin conditions in black Africans. It can also contribute to the development of racially appropriate skin care and treatment formulations.

P024 - Skin flora in people with oculo-cutaneous albinism, obligate carriers and the general population with no history of albinism in Central Malawi– A cross-sectional analytical study

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Type and amount of skin flora varies depending on age, gender, environment and health. People with albinism have been observed to develop more postsurgical infections than those with normally pigmented skin. Recent studies have shown that people with albinism have a different flora from those



with normally pigmented skin. It is not yet known whether there are difference in skin flora among people with albinism, obligate carriers and individuals with no history of albinism. A sterile cotton swab was moistened in 0.9% normal saline and rotated once clockwise on the forearm, forehead and back of 40 people with albinism, 35 obligate carriers, 35 individuals with no history of albinism. This was put on blood agar and culture at 35 °C within 4 hours and colony counts measured. Gram stain, coagulase, catalase and MacConkey, were used to identify bacteria. A structured questionnaire was used to collect characteristics of individuals and factors that can influence skin flora. People with albinism and obligate carriers have more gram negatives than those with no history of albinism. Mean colony counts were significantly higher ($p=0.004$) in people with albinism (124.2 ± 22.1) than those with no history of albinism (105.5 ± 30.1). Obligate carriers colony counts (123.7 ± 25.1) were also significantly higher ($p=0.008$) than those with no history of albinism (105.5 ± 30.1). There was no difference ($p=0.927$) in the colony counts between people with albinism and obligate carriers. There was a negative correlation between age and the gram negative colony counts in obligate carriers and those with no history of albinism ($r= -0.3$; $p=0.003$) but not in people with albinism.

P025 - Experience with a blended course: Improving dermatology skills in primary care

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Dermatologists in South Africa are largely found in urban areas, yet many people live in rural or peri-urban areas, with limited access to specialist care. Medical and nursing students at undergraduate level receive limited training in the diagnosis and management of skin disorders, although these conditions may constitute up to 25% of the presenting complaints at primary care level. In order to improve skills at primary care we have developed a blended (face to face and online) course for Clinical Nurse Practitioners (CNPs) and Doctors.

The aim is:

- To report our experience of running a blended course for nurses and doctors
- To describe perceived impact of this programme on the participating institutions

The course has been offered once or twice each year, since 2015. Most participants have been recruited from the Western Cape primary care clinics, but some have attended from other provinces in South Africa and a few have been recruited from other African countries. Participants spend a week in Cape Town, attending practical and classroom sessions. They then return to their workplaces, remaining in contact with the teaching staff by sending case reports for discussion and assessment. In addition, they participate in a highly interactive WhatsApp group, with discussion and guidance offered by group members.

At the end of the course, students join the over-arching WhatsApp group, to participate in ongoing discussion of problems and to receive support from the academic unit.

Forty-four nurses and doctors have participated in the blended course to date Two participants came from urban areas while 42 participants came from rural and peri urban areas of which the majority was from primary care. Most participants have described their dermatology skills as greatly enhanced and many are providing ongoing skin care to people in their communities.

We describe a promising new model for improving care of people with skin disorders in primary care in South Africa.

P026 - HIV infection, Albinism and Skin Cancer: A case report and factors fuelling skin cancer in HIV infected Albinos



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Cancers, including Kaposi's sarcoma and several types of aggressive B-cell lymphomas, occurred in 30% of patients who had AIDS before the development of effective combination antiretroviral therapy (cART)¹. In developed countries, cancer is the leading cause of death in human immunodeficiency virus (HIV) infected persons². Factors contributing to increased incidence of cancer in HIV infection includes chronic antigenic stimulation, inflammation, cytokine dysregulation and increased rates of infection with oncoviruses^{3,4}.

Albinism is a genetically inherited disorder characterized by hypopigmentation of the skin, hair and eyes due to a reduced or lack of cutaneous melanin production⁵. Melanin is a photoprotective pigment and protects the skin from the harmful effects of ultraviolet radiation; its deficiency results in skin cancers following high levels of exposure to ultraviolet light. In the African albino, the risk of developing skin malignancies when compared to the general population is said to be up to 1000fold⁶.

The frequency of squamous cell carcinoma of the lip is reportedly increased in HIV seropositive immunosuppressed patients compared with immunocompetent HIV seronegative patients^{7,8}. However, the impact of HIV or HIV-induced immune impairment on squamous cell carcinomas in albinos is unknown^{7,9}.

We present the case of an HIV positive albino patient with fatal skin cancer and discuss measures to reduce mortality in HIV positive albinos.

Miss E.E was a 41 year old albino who presented to the HIV clinic of Federal Teaching Hospital, Abakaliki, Ebonyi State in January, 2017 with an 11 month history of ulcers involving the head, neck and upper limbs. She first noticed a small painless swelling on the right side of the neck and shoulder which progressively enlarged to form an ulcer. Similar swellings also developed on the forehead, cheek, nose and the upper limbs; they rapidly progressed with associated ulceration of the skin over the lower face and left cheek and resultant exposure of the teeth and nostril. She had a positive history of significant weight loss, dysphagia and odynophagia, nausea and episodes of vomiting.

She was diagnosed with retroviral infection in 2014 when she developed recurrent fever, weight loss and a solitary swelling on the right leg which was excised. Her baseline CD4 was 180cells/UL and repeat in November 2016 was 400 cells. In the course of the illness, she had been transfused with 4 units of blood and she claimed adherence to her antiretroviral regimen (tenofovir, emtricitabine and efavirenz). She got separated from her spouse about 3 years prior to presentation, was a single mother of a 20 year old female from a past relationship and had two siblings with albinism.

Clinical examination revealed a chronically ill looking, young female. She had offensive odour, was moderately pale, anicteric and not dehydrated. She had multiple ulcers on her left cheek, right shoulder and forehead, a large ulcer with irregular margins below the nostril extending to the mandible and exposing the teeth, upper lip and right side of the lower lip.

A clinical diagnosis of basal cell carcinoma in an albino with background retroviral disease was made. Plastic surgery review was sought and patient was scheduled for excision biopsy and histology. She however, died a few days later.

Poverty, lack of compliance to appropriate sun preventive measures and poor understanding of the disease bedevil the management of albinism among Africans¹⁰. HIV and albinism have some features in common; poverty worsens outcome in both condition. It is documented that patients with albinism who develop skin cancers usually present late due to financial constraints and lack of radiotherapy services at



most centers, when they do present, are major challenges in the care of these patients.¹². Both conditions also increase the tendency towards development of cancers; skin carcinoma in Albinos residing in Africa tends to run an aggressive course and is likely to recur after treatment, possibly because the aetiology and predisposing factors have not altered. Our patient presented very late and succumbed to the disease.

Problems in this patient population (HIV/Albinism) are worsened by the psychosocial problems, stigmatization and isolation they encounter which may cause them to avoid HIV treatment and care services¹³. In addition, people with albinism have been found to have less assertive personalities and are more emotionally unstable than the general population¹², thus they may be unable to negotiate safer sex, thus predisposing them to the risk of HIV acquisition.

Patients with albinism should be taught early about the hazards of ultraviolet radiation and encouraged to continue protection throughout their lifetime. Reducing outdoor exposure during peak sunlight hours, wearing of protective clothing and use of sunscreen should be emphasized. Positive life skills should be taught early in life to help with coping mechanisms; regular screening for premalignant and malignant skin lesions, increasing access to health care and education about the hazards of delayed presentation for care will, hopefully, reduce or delay development of these complications. HIV infected albinos should be encouraged to adhere to their medications and sun protection practices.

Finally, public enlightenment campaigns will promote greater social integration of albinos within their communities.

P028 - The implications of acne and facial post-inflammatory hyperpigmentation on quality of life and self-esteem of Nigerian undergraduates

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Acne and facial post-inflammatory hyperpigmentation are relatively common clinical conditions among adolescents and young adults and inflict psychosocial injuries on sufferer. The study documents the psychosocial and self-esteem implications of acne and facial hyperpigmentation among students.

A cross-sectional survey was conducted among 200 undergraduates. Demographics and clinical characteristics were obtained and acne was graded using the US Food and Drug Administration 5-category global system of acne classification. Participants completed the Cardiff Acne Disability Index (CADI) and the Rosenberg self-esteem scale (RSES), and data were analyzed using SPSS 20.

Acne with facial hyperpigmentation, compared to acne without hyperpigmentation, was associated with significant level of anxiety in 30 participants (26.5% vs 10.3%, $p=0.004$) and emotional distress in 40 (35.4% vs 10.3%, $p<0.001$). Acne severity correlated with total CADI score but not with total RSES score. Quality of life (QoL) was significantly reduced among acne patients with facial hyperpigmentation (1.77 ± 1.62 , vs 1.07 ± 1.02 , $p<0.001$) compared to those without hyperpigmentation. Acne and facial hyperpigmentation was associated with social life interference, avoidance of public facilities, poor body



image and self-esteem and perception of worse disease. Low self-esteem was present in 1.5%, and severe acne was associated with an occasional feeling of uselessness in the male gender.

Acne with facial hyperpigmentation induces poorer QoL and self-esteem is impaired only in severe acne. Beyond the medical treatment of acne, dermatologists should routinely assess the QoL and give attention to treatment of facial post-inflammatory hyperpigmentation among people of colour.

P029 - Epidemiologic and clinical differences between classic and hypertrophic lichen planus in Nigeria
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Lichen planus is a chronic inflammatory skin disease known to have several clinical variants with attended variable clinical complications. We investigated to identify the demographic and clinical differences between the classical and hypertrophic lichen planus and their clinical correlates.

104 participants with lichen planus, 49 with classic and 55 with hypertrophic lichen planus included. Demographic and clinical information were obtained. Diagnosis of lichen planus was made clinically and confirmed with histology. Participants were screened for metabolic syndrome, hepatitis B and C.

Mean age of all patients was 37.20 ± 13.39 years, no age and gender differences between participants with classic and hypertrophic lichen planus. Classic lichen planus was more likely to be painful, (8.2% vs 0.0, $p=0.046$), generalized (95.9% vs 16.4%, $p<0.001$), involve the oral mucosa (38.8% vs 0.0, $p<0.001$), the nails (38.8% vs 1.8, $p<0.001$), present with koebnerisation (55.1% vs 5.5%, $p<0.001$), Wickham striae (69.4% vs 16.4%, $p<0.001$), associated with Hepatitis B vaccination (16.3% vs 3.6%, $p<0.028$) and anti HCV positivity (16.3% vs 0.0%, $p=0.002$). However, hypertrophic lichen planus was significantly associated with diabetes mellitus (16.4% vs 2.0%, $p=0.013$), dyslipidemia (74.5% vs 40.8%, $p=0.001$) and saw tooth histologic appearance on histology compared to classic type.

Hypertrophic lichen planus is more likely to be associated with dyslipidemia and diabetes mellitus compared to classic type. While classic type is a correlate of underlying hepatitis C infection and a cause of generalized and disabling disease.

P030 - Clinical diagnoses of superficial mycoses: Are clinicians over diagnosing dermatophytosis?
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Dermatophytoses or superficial fungal infections are a common reason patient present at the dermatology clinic. Fungi are ubiquitous, and the humid environment of the tropics allows for perpetuating disease. Patients attempt treatment with over the counter medicaments and alternative medicines with varying results. Most clinicians make a diagnosis and begin empirical treatment often without laboratory confirmation. This may be responsible for resistant organisms which may develop tolerance to available antifungals.

To compare clinical diagnoses of dermatophytoses with laboratory results.



A retrospective review of the clinic records over six months (July 2017- Dec 2017). Case notes with clinical diagnosis of *Tinea capitis, corporis, faciei, incognito, interdigitales, intertrigo, manum, pedis, unguim/ Onychomycoses* and *Pityriasis versicolor* were retrieved, details on demographics, duration of disease, treatment before presentation, laboratory request and result, treatment given and outcome at follow up was entered onto Microsoft Excel spread sheet and analysed with SPSS 22.0.

One hundred and twenty of 1038 (11.6%) patients were clinically diagnosed with superficial mycoses. The mean age was 30.6 ± 20.0 years; range of 2 – 82 years and the most common diagnosis (27; 22.5%) was *Tinea incognito*. Investigations were not requested in 97 (80.8%) of cases, results of KOH microscopy and culture was negative in 10 (1.2%) cases, only 1 case isolated *Candida spp.* At follow up visits, 30(25%) patients improved, 3 patients did not improve and there was no documentation of outcome in 85(70.8%) cases.

Several factors contribute to this gap in diagnostic outcome which need to be addressed. A clinical diagnosis of superficial mycoses requires laboratory confirmation to improve management of the disease.

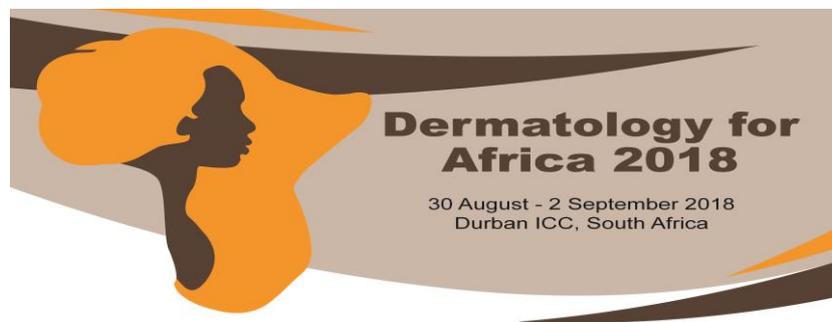
P031 - Skin Hydration in Atopic Dermatitis using Corneometry

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One of the key pathophysiological features of atopic dermatitis (AD) is skin barrier dysfunction. This dysfunction results in increased transepidermal water loss and easy penetration of allergens, bacteria and viruses, in both lesional and non-lesional skin. Hydration status of the stratum corneum is important for the proper function and appearance of the skin. In AD, increased transepidermal water loss leads to reduced stratum corneum hydration, which then, clinically manifests as xerosis and pruritus. The detection of xerosis in AD, for research purposes should best be determined through objective means. One of the validated methods, an example of bioengineering techniques, which has been developed to diagnose and monitor this biophysical parameter, is the corneometer. This instrument is non-invasive, and it measures the hydration status at the stratum corneum layer (corneometry). Studies from Nigeria on skin hydration of AD patients are quite few. The aim of this study is to assess skin barrier function of AD patients by measuring their stratum corneum hydration and compare with that of non-AD subjects.

This study was conducted between January and September 2016 at the University of Abuja Teaching Hospital (UATH); following ethical approval by the UATH Ethics Committee. One hundred subjects were recruited for the study. There were 50 AD patients and 50 age and sex matched healthy controls. The inclusion criteria were age greater than 18 years but not more than 65 years and a clinical diagnosis of AD as defined by the UK working group. Information obtained included socio-demographics and perceived factors affecting skin hydration such as types of bathing soaps or cleansers used in the last two weeks. Patients and controls were asked to only wash their bodies with soap and water on the morning of the test and not apply body moisturizer to avoid measuring the water content of the moisturizer. Skin hydration was measured on the unaffected volar aspect of the upper arm or forearm using the CM 825(Courage and Khazaka) Corneometer. This Corneometer is non-invasive and measures electrical capacitance of the skin surface and thus, the hydration to a depth of approximately 0.1mm. With the patient relaxed, the skin hydration was measured on non-hairy areas by placing the Corneometer perpendicular to the skin. Measurements were done on three neighbouring areas over one second each, ensuring that no spot was measured twice to avoid occlusion and the average taken. The result was shown digitally on a screen which indicated the hydration status. A value of less than 30 was measured as “dry” and greater or equal to 30 was reported as “non-dry”. Data was analysed using SPSS Version 21. A p-value of <0.05 was considered as statistically significant.



There were 28 females (56%) and 22 males (44%) respectively for both patients and control groups, with a sex ratio of 1.3: 1.0(F: M). The age range of the subjects was between 18-65years with a mean age 32.12 ± 10.94 years. The mean hydration value in AD patients was 21.6 ± 17.4 while for healthy control was 29.8 ± 13.5 . This was statistically significant at a p-value of 0.01. The proportion of AD patients categorized as having dry skin was 78% while that for healthy controls was 50%(p-value=0.004). Majority (79.6%) of respondents used "normal" bathing soaps, while 9 (18%) and 2 (4%) used Syndet and lipid-free liquid cleansers respectively.

This study has objectively shown AD patients to have dry skin as compared to controls. This supports available literature that suggests xerosis as a prominent and key finding in AD. Xerosis is not influenced by race or location. The non-frequent use of Syndet and lipid-free liquid soap; which are less likely to disturb the skin acid mantle and invariably the skin barrier function may also contribute to this effect. It is thus recommended that, the need for moisturization should be emphasized in our atopic dermatitis patients through continuous and vigorous health education.

P032 - Neglected tropical diseases in a dermatology clinic in South- South Nigeria

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Neglected tropical diseases (NTD's) are a diverse group of communicable diseases that are present in tropical and subtropical countries. They usually occur in developing countries and are associated with poverty, inadequate sanitation and living in close contact with infectious vectors and domestic animals and livestock. WHO has set targets for elimination and eradication of neglected tropical diseases, as this would improve the conditions of living in affected communities. A number of neglected tropical diseases have skin manifestations, so therefore the dermatologist has a keen role to play in elimination and eradication. This study aims to identify the types and prevalence of these diseases with associated diagnostic and management challenges.

This is a descriptive study in which the records of patients presenting with neglected tropical diseases in the dermatology clinic from January 2015 to April 2018 were obtained and analysed.

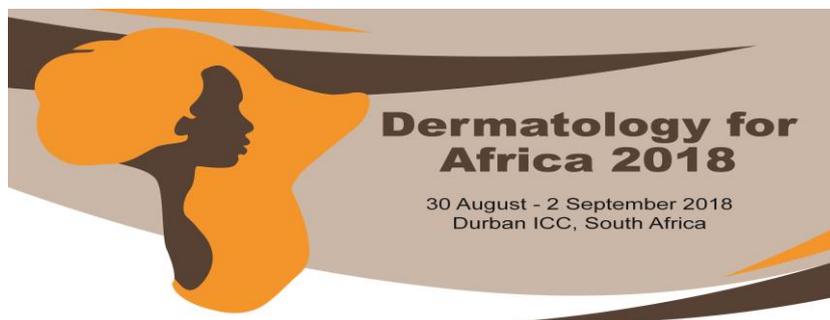
One thousand five hundred and eighteen (1518) records of patients who visited the dermatology clinic during the period were assessed. 115 cases of NTDs were identified, which is 7.57% of the total population seen. There were more males (60.87%), with vast majority of cases being in their third decade. Five NTDs were identified, with scabies been the most prevalent (80.87%) followed by Hansen's disease (15.65%). There appears to be an increase in the occurrence of these diseases.

Neglected tropical diseases are common in the dermatology clinic, with a rise in trend for Scabies and Hansen's disease. Interestingly scabies was found in both low and middle socio- economic classes. This increase in the number of cases could be due to climate change, migration of domestic staff from internally displaced camps in the North-east to urban cities.

P033 - Investigating the impact of grooming and regular braiding on African hair integrity

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Traction alopecia hair loss that results from excessive tension exerted on the hair, is significantly linked to hairstyles such as hair braiding, extensions and weaves and this is more evident when hair that has been chemically treated. Due to its intrinsic morphological properties, natural African hair is also thought to be susceptible to hair breakage with some grooming habits further exacerbating hair loss. The aim of the study was to investigate the effect that hair braiding has on hair scalp health and hair properties as well as propose a traction alopecia atlas.

Impact of repeated braiding: Hair was collected from volunteers representing 2 groups: 15 extreme braiders and 15 limited or non-braiders. Extreme braiders were defined as respondents who braid >8 times a year while non-braiders braid <2/year. Expert evaluation was conducted on volunteer scalps and instrumental tests on hair samples to evaluate their internal and surface integrity.

To assess hair cuticle integrity and thus hair surface damage; scanning electron microscopy, cuticle cohesion and fluorescent probe were used. Mechanical properties were investigated using miniature tensile testing.

Evolution of hair damage: To evaluate the evolution of hair damage and effect of products that could mitigate it was carried over a period of 4 months on 64 volunteers that were split into 2 even groups; a best braid practices group that had a defined braiding and maintenance routine and a second control group without any restrictions or specifications. Hair samples were collected at the start and end of each braiding cycle and subjected to the same tests as above.

Grooming impact: The impact of hair combing was simulated by subjecting bought hair swatches (n=9) to 480 manual combing strokes. This is equivalent to 3 weeks of daily combing. Surface damage was then quantified on images captured by scanning electron microscopy. The mechanical strain of repeated grooming was assessed using cyclic fatigue testing.

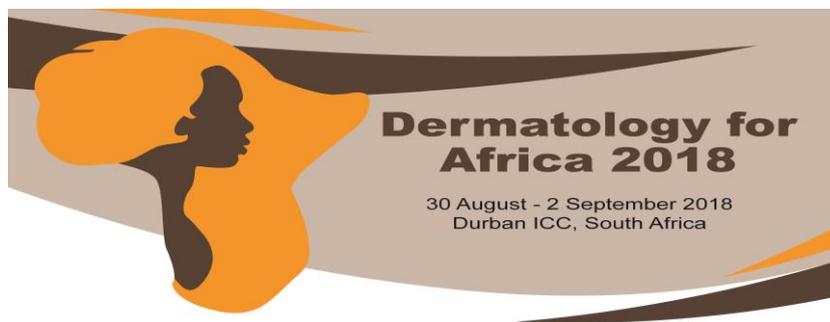
Traction Alopecia: Traction alopecia profiling was carried out on images captured using HeadScan platform that allows standardized imaging and a published grading system was used to score the severity of hair loss.

Scalp health: Expert evaluation was carried out to qualitatively assess scalp and on head hair health on all respondents (n=94). Scalp characteristics assessed included dandruff flakes, dry scalp, flaky scalp, and itchy scalp as well as level of comfort (tightness) after braiding.

Combing alone causes cuticle damage on natural African hair. Fluorescent probe analyses showed that frequently braided hair is more porous than control group. A compromised hair cuticle also translated to an exposed hair cortex, making hair more susceptible to breakage. These results indicate hair fragility, which needs to be taken into consideration when formulating cosmetic products as well as when reaching for a diagnosis on causes of hair loss in African women. This study also proposes a traction alopecia atlas that is exhaustive to the levels of hair loss observed in the South African population.

Grooming and hairstyle habits have been shown to contribute to the severity of traction alopecia. The current study reports that these habits also affect the internal, surface properties of human scalp hair and scalp health.

P034 - Kinetic study of scalp sensitivity symptoms that occur on the scalp of African women during three weeks, after a single wash using a neutral shampoo



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Many women of African ancestry experience scalp problems like dandruff, irritation, dryness, itchiness and sensitivity. Identifying the sequence of events, timing of symptom occurrence and the mechanisms involved will help to advise and develop appropriate hygienic and most beneficial hair care grooming solutions.

Women use anhydrous formulas in the form of hair foods to moisturize or soothe the scalp. We hypothesize that using this product on alternate days can initially result in an improvement on the feel of the scalp and hair but seemingly has no real therapeutic effect on the root cause of dryness. Additionally, the frequent use of such greasy products can generate product build up, resulting in an occlusive effect even more so with the infrequent washing of hair, leading to increased irritation. We believe the discomforts and dandruff appear gradually after shampoo day so the proposal is to run the study in kinetic manner over 4 weeks.

The objective of the study was to understand the mechanisms behind scalp discomforts and dandruffs/flake.

Sixty African female volunteers: 30 with irritable scalp and 30 volunteers with no scalp related issues were recruited and assessed using 3 parallel techniques: Clinical assessment, consumer self-report assessment and laboratory swab assessments.

The hair was washed at home three weeks prior to the test day and they had to continue with their usual routine (i.e. hair food) but were not allowed to wash their hair. Upon recruitment: Global score of dandruff status of the scalp: evaluation of adherent and non-adherent dandruff according to an ordinal scale ranging from 0 to 5 (total score of dandruff ranging from 0 to 10), during the course of the study for four weeks. Volunteers came to the test center once every week for the 3 weeks and further assessments occurred at T0 (post shampoo), T immediate (after use of neutral shampoo at test centre), T1Week, T2Week and T3Week:

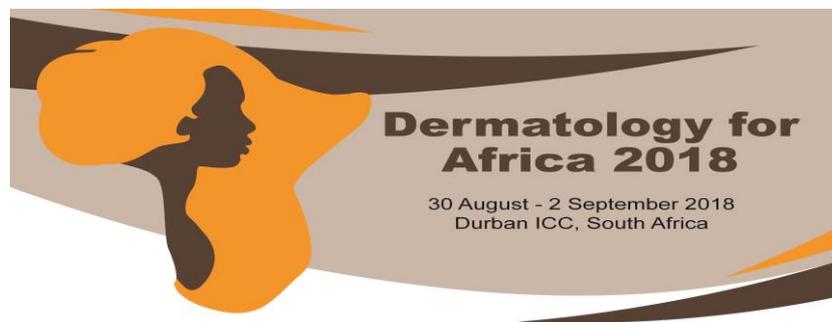
- Clinical assessment: detailed physical assessments performed by the dermatologist on score of visible redness, flakes/dandruff and dryness assessed according to an ordinal scale ranging from 0 to 3
- Consumer assessment: participants completed questionnaires / daily journals on of dandruff, itching, burning and sensitivity according to: never, sometime, and regularly.
- Laboratory assessment: D-Squame scalp swabs of area 2x2 cm² were collected for microbiological and proteomic analysis

The results will be discussed. In a previous preliminary study, we found that itchiness on the scalp was reduced at T2Weeks on the scalp that was treated with the product containing the active ingredient (Octopirox) and this helped lower the scalp discomfort even further until 6 weeks. The microbiome results shows that the active ingredient product also significantly reduced the *Malassezia* species load compared to the scalp treated with hair food. This study shows that scalp discomfort can be reduced in African women with correct usage of products and following an appropriate routine can help minimize scalp sensitivity.

Conclusion will be discussed

P035 - Human hair shape: A worldwide clinical approach to hair curliness

Poonam Sewraj



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Classical description of hair shape uses terms such as straight, wavy, curly, frizzy, kinky, woolly, etc. Although they clearly evoke a global appearance, such descriptors remain confusing because of their subjective nature, with ill-defined, overlapping limits. Moreover, many studies have only distinguished the three main hair types: African, Asian and Caucasian. Such broad classification hardly accounts for the high complexity of human biological diversity, resulting from both multiple and past or recent mixed origins.

The purpose of the study was to address a dual issue: first to describe hair types according to specific shape criteria through objective and simple measurements, second to define such hair types without referring to human ethnicity.

1442 healthy volunteers, male and female adults, were recruited in 18 different countries or regions of the world. The only requirement was to have hair without any perm, straightening or relaxing treatments. Hair samples were cut from 3 different areas of the scalp, i.e. vertex, temples and nape. After standardized washing, rinsing and drying, each single hair was cut at a fully extended length of 6 cm from the root then laid on a glass plate without any mechanical stress in order to maintain its natural shape. Four parameters were measured: 1) curl diameter (CD)- expressed in centimeter, 2) Curl index (i)- ratio of stretched hair to hair at rest; 3) The number of twist (t); 4) The number of waves (w).

It emerged from data processing that it was possible to classify the various human hairs found worldwide into eight main and coherent hair curliness types. Since *t* and *w* show a high correlation, only 3 variables, i.e. *CD*, *i* and *w* are needed to describe and/or define hair group.

It clearly appears that 4 groups (types I, II, III, IV) are distinguished by *CD* value whereas the combination of *i* and *w* further differentiates the 4 other groups (types V, VI, VII and VIII) (Figure 5).

This new approach to classification involving objective and simple morphological measurements of hair shape is more reliable and accurate than traditional methods. Applied to worldwide human diversity, it avoids referring to putative ethnic origin of subjects. This method provides a helpful and convenient tool to assess natural curliness, but also to follow modification of hair curliness related to diseases or medicines.

P036 - Constitutive pigmentation and individual typology angle measurement: Towards a better characterization of Melanins

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Introduction: Skin constitutive pigmentation is given by the amount and distribution of melanin within the epidermis and in particular the photoprotective eumelanin and the phototoxic pheomelanin content. Constitutive pigmentation can be objectively classified through the Individual Typology Angle (ITA) based on colorimetric parameters of the $L^*a^*b^*$ system. Experimentally, we have previously shown a correlation between ITA values and biological markers of UV-induced erythema, reflecting the sensitivity to UV exposure (Del Bino et al., 2013). Nevertheless, a precise knowledge of melanin in human skin is lacking.

The present work aimed at better analysing melanin content in skin samples of variable constitutive pigmentations classified according to their ITA value using: i) image analysis of Fontana Masson stained



sections ii) spectrophotometry following solubilisation of samples with Soluene-350, and iii) high-performance liquid chromatography (HPLC) after chemical degradation of melanin.

ITA values were calculated from spectrophotometer (Datacolor) measurements of the L* (Luminance) and b* (yellow/blue component) parameters on 35 skin samples. The samples were classified into six color groups: Very light, Light, Intermediate, Tan, Brown and Dark. The melanin index (MI) in the whole epidermis or in the basal layer was defined by image analysis on Fontana Masson stained sections as the surface covered by the melanin staining over the whole epidermis or the basal layer. Epidermal samples were homogenized and subjected to H₂O₂ oxidation and Hydroiodic acid (HI) hydrolysis. Specific degradation products of melanin were analyzed using HPLC. Total melanin content was estimated spectrophotometrically by analyzing absorbance at 500 nm.

- Result shows significant correlations between individual typology angle (ITA) and total melanin content assessed either by image analysis, spectrophotometry or HPLC, showing that the darker the skin the higher melanin content.
- Significant correlation between ITA and melanin index in the whole epidermis or in the basal layer by image analysis
- Significant correlation between ITA and PTCA (eumelanin), TTCA (benzothiazole-type pheomelanin) but not 4-AHP (benzothiazine-type pheomelanin) by HPLC
- Similar ratio of eumelanin and pheomelanin content in skin irrespective of constitutive pigmentation

Our results contribute to a better characterization of the “chemical” melanin phenotype in skin of different constitutive pigmentation (Del Bino et al., 2015).

P037 - UVA1 exposure leads to darken human skins of different constitutive pigmentation together with a molecular biological impact

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Human skin is daily exposed to solar UV rays. Among the range of UV that reaches the Earth ground, longwave UVA (UVA1, 340-400nm) can represent up to 80% of total UV and show high penetration properties, reaching deep dermis. An increasing body of evidences indicates that longwave UVA1 can have a significant contribution in long-term clinical consequences of solar UVR (Marionnet et al, 2014). This work aimed at studying *in vivo* the clinical pigment darkening response as well as the biological response following UVA1 exposure of volunteers exhibiting various constitutive pigmentations. Caucasian (skin types III/IV), Indian (skin types IV/V) and African (skin type VI) skins were exposed to a series of UVA1 doses (Oriel solar simulator equipped with WG360 Filter). Skin colour pre and post-exposure was measured visually by the same investigator and using a Chromameter (Minolta CR400) using L*a*b* color system (CIE lab 1976). L* expresses skin reflectance and b* component balancing between yellow (positive values) and blue (negative values). Punch biopsies were also performed at UVA1 exposed and non-exposed sites and gene expression profiles were carried out, using quantitative PCR.

In Caucasian skin *in vivo*, UVA1 exposure induced immediate and long-term pigmentation. In Indian and African skins *in vivo*, dose response and time course experiments showed that UVA1 exposure induced immediate and long-term pigmentation, in a dose dependent manner. The low dose of 30 J/cm² UVA1



was sufficient to induce skin pigmentation in Indian and African skins. In Caucasian, Indian and African skins *in vivo*, UVA1 exposure induced the modulation of expression of genes related to diverse functional families, such as inflammation, oxidative stress and cancer

Our result contributes to data on the pigment darkening response to UVA1 exposure in a variety of skin types. In association with our previous findings, this data promotes the use of sunscreen by all skin types for the benefit of even pigmentation and prevention of a range of UVR-induced detrimental consequences e.g. cancer.

P038 - Ethnic variation in facial skin neurosensitivity: Assessment using a qualitative survey and quantitative capsaicin threshold

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Sensitive skin is largely agreed to be a lay term used by individuals who consider themselves more intolerant to applied products and environmental factors than the general population. The more frequent symptoms, such as stinging, burning and itching sensations on the face, are subjective, with and without any clinical visual signs of irritation (redness, papules, rashes). This complex entity is encountered in all industrialized countries and this concerns population from many ethnic backgrounds. Ethnic variation in sensitive skin has not been fully explored and remains controversial. In 1988, Berardesca and Maibach (1) reported equal sensory irritation response to sodium lauryl sulphate treatment in 9 black and 9 white skin volunteers.

The aim is to examine possible ethnic variation in skin sensitivity using a topical irritant, capsaicin, as well as assess subjective perception of sensitivity skin using an epidemiological survey.

Approximately 800 telephone interviews were conducted with women from 4 different ethnic groups (Afro-Americans, Asians, Euro-Americans, Hispanics, approximately 200 per group). The sensitive skin questionnaire was derived from a questionnaire previously used for mail epidemiological survey in the UK (1). To objectively assess ethnic variation in facial skin neurosensitivity, solutions of increasing capsaicin concentration were successively applied to one side of the nasolabial folds of 144 women (Asian, African, Caucasian) whilst the other side simultaneously received the vehicle as control. The test was discontinued when the volunteer reported on the capsaicin side a sensation whatever the nature.

52% of the study population (n=800) considered themselves to have sensitive skin. There was no statistically significant difference between ethnic groups in terms of prevalence of sensitivity or the way they perceive sensitive skin. However, some difference was noted between ethnic subgroups concerning factors of skin reactivity e.g. Euro Americans (White) were characterised by higher skin sensitivity to wind and tended to be less reactive to cosmetics whilst Afro-Americans (black) presented diminished skin reactivity to most environmental factors and a lower frequency to recurring facial redness. Black skin also reported higher detection threshold for capsaicin in comparison to white skin ($p=0.027$) but when pooled with Asians, there was no significant difference in capsaicin threshold in the three groups ($p=0.072$).

Our results show that there is no difference in skin sensitivity prevalence or its presentation amongst different skin types. Vast inter-individual differences in capsaicin threshold, seen in both white and black skin, is possibly accompanied by equal sensory response (Berardesca and Maibach, 1988). Sensitive skin condition can negatively impact quality of life and the use of certain products. There is scope for the molecular characterization of sensitive skin in all skin types accompanied with testing of the impact of soothing hypoallergenic products on sensitive skin.



P039 - Solar ultraviolet radiation induces biological alterations in human skin *in vitro*: Relevance of a well-balanced UVA/UVB protection

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One of the major long-term consequences of chronic sun exposure is the development of photoaging clinical signs including wrinkles and sagging. These deleterious events mostly result from alterations of extracellular matrix and fibroblasts in the dermal compartment. It is now well admitted that UVA wavelengths play a major role in photoaging process indicating a predominant role of non-erythemal sun exposures. It is thus of importance to design the most efficient photoprotection for all kinds of solar exposure. The reconstructed human skin *in vitro*; comprising a living dermal equivalent and a fully differentiated epidermis represents a predictive tool to characterise wavelength and cell type specific biological damage together with a tissular distribution. We have previously shown in this 3D skin model that while UVB directly affects epidermis with sunburn related biological damage, UVA radiation can directly target the dermal compartment through ROS generation, dermal fibroblast and extracellular matrix alterations, including MMP-1 production. Based on the identification of these biological end-points, evaluation of sunscreen efficiency could be addressed. Application of formulations can be performed topically as *in vivo* due to the presence of horny layers.

To assess photoprotection afforded by sunscreens having different absorption profiles in the UVB/UVA wavelengths domains against UVR-induced damage, using a reconstructed skin *in vitro* Assessment was carried out in a model of reconstructed skin comprising both a differentiated epidermis and a fibroblast populated dermal equivalent. In this 3D skin model, we studied the efficiency of two sunscreen products A and B; sunscreen A had a sun protection factor (SPF) of 15 and a UVA-protection factor (UVA-PF) of 10 as measured by the persistence pigment darkening (PPD) method and sunscreen B had a SPF of 30 and a UVA-PF of 4. These two products were assessed after topical application onto reconstructed skin model and exposure to increasing doses of Daily-UV, which corresponds to non-erythemal sun light exposure occurring during daily activities.

Exposure of reconstructed skin to UVR (UVB+UVA) resulted in damage in both epidermal keratinocytes and dermal fibroblasts (e.g. morphological alterations and MMP-1 production). After application of sunscreens, the product A with significant UVA absorption profile can efficiently prevent these alterations compared to the lack of protection with the product B lacking UVA filtration. These results indicate that a well-balanced UVB/UVA absorption profile is of higher efficacy even if the SPF value is increased, with regard to prevention of photoaging related biological end points.

Photoaging and several hyperpigmented skin lesions are associated with exposure to UV radiation. In agreement with the *in vivo* protection factors, SPF for erythema and UVA-PF for UVA induced pigmentation, the reconstructed skin model allowed to demonstrate that an effective photoprotection requires sunscreens with both SPF and a significant UVA absorption potency.

P040 - Unexpected differences in Epidermal Morphogenesis of skin models reconstructed with Keratinocytes and Fibroblasts of Caucasian and African origin

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Skin physiology appears different according to skin type (pigmentation, aging, barrier function of the *stratum corneum*, higher prevalence of physiopathology as keloids for people of African ancestry). Previous studies have emphasized that fibroblast population from the superficial dermis (papillary



fibroblasts) is crucial in the physiology of the skin and appear to be preferentially affected with aging. Moreover, papillary fibroblasts functions appear to differ according to skin type origin. To understand the functions of keratinocytes and the regulatory effects of papillary fibroblasts on the epidermis according to skin colour origin of the cells in reconstructed skin models *in vitro* Normal human skin was obtained from breast reduction of volunteer adult females of African and Caucasian origins (mean age 29 years \pm 7). For the reconstruction of the *in vitro* skin, skin cells were isolated from donors below 30 year-old of African (n=4) and Caucasian origins (n=4). Briefly, keratinocytes and papillary fibroblasts were isolated respectively from the epidermis and the superficial layer of the dermis of skin biopsies of each donor. Caucasian (with Caucasian keratinocytes and fibroblasts), African (with African keratinocytes and fibroblasts) and hybrid (mix of African and Caucasian keratinocytes and fibroblasts) *in vitro* models were made. The latter was used to study the influence of fibroblasts on epidermal homeostasis. Immunostaining of human (pro)-filaggrin was performed and gene expression from the various models was assessed with Affymetrix 3'IVT chips HG-u133plus-PM. Signalling pathways leading to terminal differentiation (filaggrin processes) and lipid/ceramide metabolism were up-regulated in Caucasian keratinocytes compared to African keratinocytes *in vitro* *In vitro* epidermis exhibited distinct features with regard to stratification and differentiation according to skin colour cell origin as supported by microarray analysis e.g. epidermis appeared thinner for the granular layer in the African reconstructed skins models compared to Caucasian reconstructed skin models suggesting that barrier function of stratum corneum could be different. Our findings support an important role of papillary fibroblasts on epidermal morphogenesis according to the skin colour origin. Our knowledge and expertise on reconstructed skin *in vitro* could help to deepen our understanding of the biological mechanisms occurring in different skin colours in order to identify the distinct involvement of different skin cells in process such as high propensity of keloid formation in dark skin (keloid formation in dark skin), dryness and desquamation disorders.

P041 - Evaluation and effectiveness of a photoprotection composition (sunscreen) on subjects of skin of colour

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The majority of clinical research on sunscreens has focused on Fitzpatrick skin types I, II and III, and reported improvements with skin aging and texture.

To evaluate the efficacy of photoprotection on individuals of skin of colour (Skin types IV - VI) who are non-sunscreens users to see if there is a benefit for prevention of hyperpigmentation.

Eighty-nine African-American and Hispanic participants were enrolled in the summer months and randomized to using either SPF 30 or SPF 60 sunscreen formulations. Skin examination and patient data collection including triplicate L*a*b* chromameter readings were obtained on all subjects at baseline, 4 weeks and 8 weeks. L* assesses pigmentation, a* assesses erythema/skin redness and b* assesses yellow. Face and hand photographs using the Canfield Visia CR photography systems were also obtained.

Objective quantitative measurements of skin lightening were statistically significant overall ($p \leq 0.05$) in all groups when baseline was compared to eight weeks. Analysis of photographs showed lightening of



normal skin and lightening of pre-existing facial and hand pigmentary anomalies with usage of both sunscreen products.

The results indicate that regular sunscreen usage can improve dyschromia in skin of colour subjects.

P042 - Clinical characterisation of ageing signs in South African women vs African American women

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Aging is one of the fundamental laws in the biological universe, manifesting on the skin as dark spots, tissue slackening, uneven tone and expression lines. These typically appear a decade later in dark skin tones than in lighter ones, possibly because of differences in the concentration of epidermal melanin and a thicker, more compact dermis.

The aim is to evaluate the evolution of the signs of aging among population of black South African women vs African American women. The secondary objective of the study is to interrogate influence of ultraviolet radiation (UVR) and location on the presentation of clinical signs of aging.

120 South African (Johannesburg) and 260 African American women (Chicago), aged 18 to 60 years were photographed using a HeadScan V04 (OrionTechnoLab). Sixteen clinical signs of aging on the face and neck were evaluated by a panel of 14 experts. A correlation of perceived age vs radiance was conducted on all parameters to better understand perception of age in South Africa women. Questionnaires on lifestyle were also included to elucidate the impact of ultraviolet radiation (UVR) and location on the presentation of clinical aging signs.

An upward correlation was observed between age vs expression lines and tissue slacking while no correlation was seen for age vs pigmentation around the eyes age beyond 35years for South African women. The perceived age negatively correlated to the skin radiance (correlation coeff = -0,57) and skin evenness (correlation coeff = -0,63); younger women were perceived to be +10 years older. Women with higher sun exposure (South Africa-high UVR intensity vs Chicago-lower UVR intensity) presented with clinical signs of aging (e.g. tissue slackening, expression lines etc.) earlier.

There are many factors that contribute to an earlier showcase of clinical signs of aging e.g smoking, pollution and possible high sun exposure. The criteria, which are the most correlated to perceived age, were forehead wrinkles, nasolabial fold, ptosis and upper lip wrinkles. Objective tools to precisely investigate the influence of intrinsic and/or extrinsic ageing on facial appearance in order to evaluate effects of a given skin regimen, are now available. They allow multi-ethnic studies to being performed and compared. Such clinical characterization is a pathway for better understanding the impact of geographical, physiological and cultural issues in the perception of visual appearance.

P043 - Evaluation of the impact of urban pollution on the quality of skin. A Multicentre study in Mexico

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The effect of air pollution has been identified in the respiratory tract but remain largely unknown on skin, scalp and hair. In big cities where industrial activities bring the most part of known pollutants, the impact of pollution on skin quality is becoming a very important subject.



After pilot and preliminary studies aimed at identifying pertinent biochemical parameters, a multicenter clinical study was performed to evaluate the effect of pollution on human facial skin in a polluted environment (Mexico city) and less exposed to pollution area (Cuernavaca) in Mexico.

Different biophysical and biochemical parameters were evaluated on the skin surface in a group of 96 subjects living in Mexico city and a group of 93 volunteers living in Cuernavaca. A dermatologist filled questionnaires and clinical diagnosis was particularly focused on skin evaluation, former eczemas, seborrhea dermatitis, rosacea events, and usual cosmetic routines. The study conducted in healthy volunteers (men and women) living in two different places could be helpful to evaluate the chronic effect of air pollution. Biochemical analysis was conducted on sebum and the superficial stratum corneum. No invasive instrumental measurements were conducted on the face. The two dermatologists were from the American British Council Hospital (Mexico).

A number of cutaneous markers are significantly modified upon polluted environment; Vitamin E, squalene, ATP content and chymotrypsin like activity (essentially attributable to SCCE/KLK7 protease) decreased while lactic acid and oxidized protein content increases. These markers modifications seem to point out a stimulated oxidization process on skin surface. The chymotrypsin-like activity decrease in the Mexico city group could probably lead up to an impaired desquamation function. Of note, no difference was observed between the two groups, with respect to corneodesmosin content and SCTE Trypsin like activity (SCTE/KLK5).

The study demonstrated an important impact of urban polluted environmental conditions on skin quality, evidencing important modifications of superficial biochemical parameters. Both acute and chronic effects could be observed on skin surface. The cause/effects relationships of these modifications remain, however, to be further assessed by complementary *in-vitro/in-vivo* approaches.

P044 - Ethnic variations in sensitive skin: Epidemiological and experimental approaches

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Until its recent definition (1), sensitive skin was largely agreed to be a lay term used by individuals who considered themselves more intolerant to applied products and environmental factors than the general population. The most frequent symptoms such as stinging, burning and itching sensations on the face, are subjective. They are sometimes associated with visible signs such as erythema. Epidemiological surveys indicated that this cutaneous syndrome was encountered in every country thus far studied and concerned skins from varied ethnic background. But, the accurate role of ethnicity in sensitive skin has remained controversial and unexplored.

To examine possible ethnic variations in sensitive skin through an epidemiological survey and experimentally through a recently developed test designed to diagnose sensitive skin subjects.

Approximately 800 telephone interviews were conducted in the San Francisco area with adult women from 4 different ethnic groups (Afro-Americans, Asians, Euro-Americans, Hispanics, approximately 200 per group). Capsaicin is a chili pepper extract which induces discomfort sensations when topically applied. We previously showed that subjects with sensitive skin were able to detect lower capsaicin concentrations (2). To objectively assess ethnic variations in facial skin neurosensitivity, 5 solutions of increasing capsaicin concentration (from $3 \cdot 10^{-5}\%$ to $3 \cdot 10^{-3}\%$) were successively applied to one nasolabial



fold of 144 women (Asian, African, Caucasian) living in Lyon (France). The other side simultaneously received the vehicle as control. Successive applications were continued until the volunteer reported on the capsaicin side a sensation whatever its nature or intensity. The detected concentration was considered to be the capsaicin detection threshold.

52% of the study population (n=800) considered themselves to have sensitive skin. There was no statistically significant difference between ethnic groups in terms of sensitive skin frequency or of subjective symptoms. However, minor differences were noted between ethnic subgroups concerning triggering factors. For example, Euro-Americans were characterised by higher skin reactivity to wind and tended to be less reactive to cosmetics, while Afro-Americans presented diminished skin reactivity to most environmental factors. Experimentally speaking, African skins presented higher capsaicin detection thresholds compared to Caucasian skins ($p=0.027$) but when pooled with Asians, there was no significant difference in capsaicin detection threshold between the three groups ($p=0.072$).

The epidemiological survey indicated that there was no major difference in sensitive skin prevalence or its presentation amongst different ethnic backgrounds. The experimental approach with capsaicin confirmed that the level of skin neurosensitivity does not significantly vary with ethnicity. Even though data are still lacking in large geographical parts, these findings suggest that sensitive skin equally concerns people from different ethnic backgrounds living in the same environment. Sensitive skin condition can negatively impact quality of life and limit the use of certain products. Characterization of sensitive skin should be continued in all populations, together with the testing of the benefits of soothing hypoallergenic products on sensitive skin syndrome.

P045 - Skin and hair typology in South Africa

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Introduction: For a better understanding of our consumers around the world, it is important to quantify the main 'cosmetic disorders' that affect them and the peculiarities of their skin and hair in their local living environment.

Aim: To quantify the main 'cosmetic disorders' that affect our South Africa consumers

371 women and 342 men (comprising native speakers of Zulu, Xhosa, Sotho and other languages), aged 18 to 70 years were assessed. Self-assessment of the subjects was carried out by interview to assess the volunteer's own perception of the condition of their skin and hair i.e. consumer habits, hair care and skin conditions. Expert assessments by a dermatologist, beautician and hairdresser were also performed. The latter included the use of a chromasphere (skin colour assessment), corneometer (hair and skin dryness) and sebumeter (oiliness). Pictures of the volunteers were also taken. A local South African team, independent of L'Oreal, carried out this study.

In regard to their facial skin, South African women complained about lack of brightness (78% of cohort) and lack of firmness of the skin (70% of cohort). For the first time in our studies, we observe a uniform oily skin on the face (no T zone): forehead and cheek have equivalent sebum rates. Another feature is the lack of significant decrease in sebum rates after menopause. The dermatologist observed that 99% of the women have pigmentary disorders (brown spots, spread macules, naevi, melasma) with a clear age



effect. Contributing to facial hyperpigmentation is inflammatory and retentional acne in women and in men, pseudofolliculitis of the beard is highly common (60%) which presents with high prevalence of acne levels as well. Dryness is a major concern for legs, palms and heels, with strong decreasing age effect. In regard to hair habits, limited access to water and recurring hairstyles that strain the hair fibre are part of the elements that may explain the sensitive scalp seen in the population; sensitive scalp is mainly evident through itching complaints. Also, the prevalence of hair straightening products (relaxers) is high age 18- 49 ($\geq 50\%$). Insufficient rinsing of hair straightening products may thus contribute to the increased fragility of the hair as seen by the expert hairdressers, despite a notable self-perceived underestimation of their hair fragility by the volunteers. Interesting, there was no correlation between relaxer/braiding and traction alopecia, which affect 60% of the women.

Concerns about body skin dryness is prevalent in the African population. In terms of ideal skin, the study population would like a brighter firmer skin with even skin tone (i.e. no hyperpigmentation) without losing natural colour. For women, the most common hair practices (straightening and styling) most likely contributes to dryness, alopecia and fragility of the curly fibres reported in our cohort but not in an exclusive causative manner.

P046 - Kinetics of sebum on black South African women's scalp

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Several studies that include instrumental evaluation of sebum on the scalp showed that sebum levels on the scalp differ among populations living in different parts of the world. This study completes the picture with data on Black South African women.

The aim is to assess and compare the sebum level on black South African (SA) and African American (AA) women scalp and forehead over a 72 hour period.

Thirty black females aged between the two groups of (18- 35) and (45- 65) years old were enrolled in the study. Inclusion criteria specified that no relaxer was used in the 4 weeks prior to the test. The study was conducted over a 72-hour period and measurements were made on the scalp and forehead using a sebumeter (sebum score). Kinetics of sebum production were also studied, in particular the time it reaches a plateau, as well as the age impact on that kinetic.

The basal scalp sebum level of South African women was much lower compared to the African American scalp and the lowest of all populations we could source data on (International comparison of Sebum levels of the scalp after shampoo, L'Oreal 2011). For the kinetics of sebum production, black South African women have a much lower sebum production on the scalp. It takes longer for the scalp to reconstitute the sebum at 48 hours when compared to other countries globally.

Itchy and dry scalp is a concern for South African women. Climate and environment, culture, lifestyle and hair care routines may explain the findings on sebum levels. The findings of the study the importance of scalp dedicated products for the African population.