043 Efficacy of microneedle patches containing salicylic acid or EGCG on acne vulgaris
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Dissolving microneedle technology is an emerging system which makes it easy to deliver medications through the skin. Whether microneedles can be expected to be effective on acne lesions, a microneedle system coated with a known topical acne medications. We evaluated the efficacy and safety of salicylic acid (SA) and epigallocatechin-3-gallate (EGCG) containing microneedle patches on acne lesions. A prospective, split-face study was performed for 4 weeks. A total of twenty adult acne patients were conducted to assess the treatments. The participants applied the different types of patches (SA, EGCG and control) on each quadrants area of the face every other day. Clinical improvement was assessed by lesions counting using photographs in 0.1 mm × 0.1 mm × 1 mm (80x100 mm) square test area, sebum index, and patients’ subjective assessment of satisfaction. At week 4, both SA and EGCG containing microneedle patch showed clinical improvement on each assessments. SA had a superior efficacy than EGCG and control patches, especially on lesions counting of non-inflammation acne. Biopsy showed a statistically significant difference in the number of neutrophils whereas no effects were noticed. Almost none statistically significant difference was seen among SA, EGCG and control microneedle patches, except for non-inflammation acne lesions. But still SA and EGCG containing microneedle patch were shown to be clinically more efficacious than controls.

044 Validation of the electronic version of the Dermatology Life Quality Index (DLQI)
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The use in electronic format of patient reported outcome measures (PROs) has been increasing, though they are not always validated against their paper counterparts. The aim of this study was to validate a novel iPad version of the DLQI concerning score and consistency, compared to the conventional paper-based version. Patient preference and acceptability were also recorded for each version. The study employed a randomized cross-over design using a within-subjects comparison of the two questionnaire formats. Interna- tional Society for Pharmacoeconomics and Outcomes Research Guidelines were followed. Subjects aged over 18 years with any confirmed skin condition were recruited from a teaching hospital dermatology outpatient clinic. 104 patients were recruited, mean age~52 years (SD=±16.7, 41% male). The most common conditions were psoriasis (19%), ‘skin lesions’ (19%) and eczema (11%). The intra-class correlation coefficient (ICC) showed high concordance between the total DLQI scores from paper and iPad versions (ICC = 0.98, 95% CI 0.97-0.99). Patients took a median of 78 seconds to complete the electronic version and 73 seconds for paper (p<0.05): 76% preferred the electronic version. Patients found both paper and iPad versions easy to use (mean 9.4 ± 1.1 for paper and 9.6 ± 1.1 for iPad, 10 = very easy). There is high concordance, and thus equivalence, between the iPad and paper versions of the DLQI with a clear patient preference for the iPad version. This first documented validation of the electronic format DLQI has reassuring implications for researchers and patients worldwide.

045 A comparative study of safety and efficacy of tacrolimus topical ointment (biocor’s formulation) versus protopic® topical ointment (astellas pharma) in children and adults with atopic dermatitis
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The objective of this study was to know the therapeutic equivalence of Tacrolimus 0.03% ointment (Biocor Limited) with Protopic® 0.03% ointment, (Astellas Pharma) in children, and Tacrolimus 0.1% ointment (Biocor Limited) with Protopic® 0.1% ointment (Astellas Pharma) in adults for the treatment of atopic dermatitis. The study was a multicentre, randomised, open label, parallel-group, four arm, therapeutic equivalence study. Children aged between 2 to 15 and patients aged between 15 to 75 year were randomized either into Tacrolimus 0.03% ointment group or Protopic® 0.03% ointment groupand Tacrolimus 0.1% ointment group or Protopic® 0.1% ointment group respectively. Total duration of the study was 21 days. The calculated 95% CI for percentage change in IGA score from baseline to day 21 for Tacrolimus 0.03% ointment and Protopic® 0.03% ointment group is -5.69 to 7.30 with the p-value of 0.803 and for Tacrolimus 0.1% ointment and Protopic® 0.1% ointment groups is 0.12 to 0.91 with the p-value of 0.692. During the secondary efficacy end point analysis, the calculated 95% CI for percentage change in EASI score from baseline to day 21 in Tacrolimus 0.03% ointment and Protopic® 0.03% ointment group is -3.24 to 8.66 with the p-value of 0.371 and for Tacrolimus 0.1% ointment and Protopic® 0.1% ointment group is -9.06 to 3.07 with the p-value of 0.322. As both the p-values were more than 0.05, means the null hypothesis cannot be rejected. It is concluded that Tacrolimus topical ointment (Biocor’s formulation) has similar therapeutic effect and safety profile to that of Protopic® topical ointment (Astellas Pharma) in treating children and adult patients with atopic dermatitis.

046 Study of the effects of pregnancy on skin properties: A mechanical approach
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Pregnancy induces major changes to the woman body. From a mechanical point of view, the abdomen is the most affected area by progressive stretching of the skin, leading to the formation of characteristic skin lesions (striae distensae). While the biomechanical properties of lesional skin in striae distensae are well documented, the objective of our study was rather to investigate the mechanical properties of non lesional skin, in a highly stretched body area (abdomen) and a less stretched body area (thigh), in non-pregnant women and in pregnant women before and after delivery. A clinical study has been conducted on 15 non-pregnant women and 26 pregnant women at the 8th month of pregnancy and 4 months after delivery. Mechanical properties of non lesional skin have been measured under suction stress. Measurements were performed on the abdomen and the thigh area. On the abdomen, under a 10% strain, the Young modulus was increased almost two times, especially in the thigh, where mechanical properties decreased. These results underline the fact that pregnancy exerts profound changes in skin properties whatever the site and that specific products should be developed to address this condition.

047 Chemokine ligand 22 (CCL22) plasma levels correlate with disease severity and predict response to dithranol treatment in patients with psoriasis
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Dithranol is a potential treatment for psoriasis, leading to fast PASI reduction. Application of dithranol causes inflammation, but its mechanisms of action are still largely unclear and markers of treatment response are unknown. The aim of this study was to reveal any possible association between disease activity and/or response to dithranol treatment and plasma levels of selected cytokines/chemokines. 15 psoriasis patients (mean PASI score at baseline, 13.6±10.6) were enrolled in this study. Biopsy and blood samples were taken before (day 0), during (day 4 at maximum inflammation), at the end of treatment (week 2-3) and after dithranol therapy (week 6-7). 65-Multiplex Immunoassay was used to analyze cytokine/chemokine concentrations in plasma and CD14 immunohistochemistry (IHC) was performed to quantify Langerhans cells in the epidermis. Dithranol treatment reduced PASI by a mean of 57% (ranged from 20% to 93%) at week 2-3 and by 59% (ranged from 3% to 81%) in the follow-up at week 6-7. Though several other cytokines correlated with disease activity and/or PASI reduction, the strongest correlation was observed in CCL22. It significantly correlated with PASI score before (r<0.91, p<0.001), during (r<0.89, p<0.001) and after therapy (r<0.90, p<0.001), and pretreatment values of CCL22 inversely correlated with overall reduction in PASI. The results of IHC showed a trend of increase in cell count of CD14 positive cells in the epidermis during dithranol treatment, which further increased at the follow up visit (p<0.05). Our results suggest that CCL22 plasma levels in psoriasis patients during and after dithranol treatment can be used as a biomarker to predict therapy response to dithranol in psoriasis patients.

048 Comparative study of matrix metalloproteinase expression between AIDS-related and non—AIDS-related Kaposi’s sarcoma
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Kaposi’s sarcoma (KS) is an angioproliferative tumor caused by human herpesvirus 8 (HHV-8) which became widely known as the most frequently observed Human Immunodeficiency Virus (HIV/Acquired Immunodeficiency syndrome (AIDS)- associated malignancy. The association of the disease is complex and incompletely understood. To date, matrix metalloproteinases (MMPs) are associated with Kaposi’s sarcoma (KS) tumorigenesis and may contribute to the mechanism of KS invasive growth. The aim of this study was to evaluate the expression of multiple MMPs in patients with acquired immune deficiency syndrome (AIDS)-related classic cutaneous KS lesions. We performed a retrospective study on eighty-two (82) patients, of whom sixty-seven (67) patients with classic Kaposi’s sarcoma and fifteen (15) patients AIDS-related Kaposi’s sarcoma. Patients included in the study were aged between three and seventy-three years. Immunohistochemistry for HHV8 and monoclonal antibodies specific for MMP1, MMP3, MMP9, MMP11, MMP13 was performed on formalin-fixed, paraffin-embedded tissue sections. The results of our study revealed that lesional cells of Kaposi’s sarcoma in HIV-positive and HIV-negative patients were immunoreactive for all MMPs. Ucleration, present in the nineteen (19) of the nodular KS lesions, did not alter MMP staining. There were no appreciable differences in immunoreactivity between classic KS and AIDS-KS lesions. So far, only a few MMPs have been studied in KS lesions in patients with HIV infection and progression remains unexplained. The present study could provide further evidence for the in vivo expression of five MMP in classic and AIDS-KS cutaneous lesions. Thus, our observations may contribute to the mechanism of KS invasive growth, and may provide new therapeutic approaches using specific MMP targets.