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Ego Pharmaceuticals Sponsored Breakfast: Sunscreens – Optimising Protection

Sunscreens: Optimising protection

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Sunscreen formulation has been described as both an art and a science. To optimise the protection delivered, actives must be dissolved and dispersed uniformly through a base that has been crafted to allow a consistent film to form over the skin. Cosmetic acceptability can be a challenge for sunscreens; however is the final key to consumer compliance. As our understanding of the damage caused by the sun increases every year, it has become increasingly obvious that we need to deliver the best quality sun protection to the consumer. The Australian sunscreen testing standard is being updated to allow product claims of up to SPF 50+, while a new test for UVA protection will ensure that balanced protection is delivered. As we continue to learn more about sunscreen technology and how to best deliver it for optimal health outcomes, sunscreens will continue to become increasingly elegant and protective.

Keynote Symposium

Clinicopathologic and genetic correlation of melanocytic tumors – Implication for treatment

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Several reports demonstrated the difficulties and lack of agreement in the histopathologic diagnosis of atypical melanocytic tumors (atypical Spitz tumors, atypical blue tumors). These lesions are often included in the broad group of "melanocytic tumors of uncertain malignant potential" (MELTUMP). Several of these tumors were analyzed in a Tutorial organized during the XXIX Symposium of the International Society of Dermatopathology (ISDP) in Graz in 2008. Fifty-seven cases of MELTUMP were classified within 3 groups according to behavior as follows: (a) favourable (no evidence of metastatic disease after a follow-up of ≥ 5 years); (b) unfavourable (tumor-related death and/or large metastatic deposits in the lymph nodes and/or visceral metastases); (c) borderline (small nodal deposits of tumor cells ≤ 0.2 mm). There were no significant differences in tumor thickness and presence or absence of ulceration between the different groups. The only 3 histopathologic criteria that were statistically different between the groups of favourable and unfavourable cases were presence of mitoses, of mitoses near the base, and of an inflammatory reaction, all of them found more frequently in cases with unfavourable behaviour. Genetic analyses on a subgroup of these lesions were performed by array comparative genetic hybridization (aCGH). The only recurrent chromosomal aberration was a partial loss of chromosome 9, observed both in cases with favourable and with unfavourable behaviour. The major outcome of this study of a series of "MELTUMPs" suggests as a preliminary observation that these lesions as a group exist and that they may be biologically different from conventional melanoma and benign melanocytic nevi. The terminology remains highly controversial, reflecting the uncertainty in classification and interpretation of these atypical melanocytic tumors. Both histopathologic studies and aCGH results support the concept of a unique group of low-grade melanocytic tumors.

STD update

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Although STD epidemiologic trends do vary from country to country, some recent trends remain more or less constant: high risk of syphilis in ethnic and disadvantaged minorities and in men who have sex with men, increased risk of STD in older men who utilize erectile dysfunction drugs routinely, and less-than-optimal condom use among youth. For diagnostic purposes, culture and lab-based testing is gradually being supplanted by immune-based, point-of-care rapid methods. Syphilis remains a worldwide problem and can assume a wide variety of morphologies. Genital herpes may confer an increased lifelong risk of prostate cancer, and the most promising vaccine candidate has now been abandoned due to lack of efficacy. Large-scale meta-analysis fails to prove that last trimester administration of acyclovir analogues reduces the risk of neonatal herpes in newborns with a mother known to be HSV-2 positive. While chancroid has disappeared from North America, it remains an important pathogen in Africa and Asia. LGV has enjoyed a resurgence, but now presents as proctitis or rectal ulcer, rather than as massive inguinal adenopathy. Many governmental agencies recommend oral ivermectin (200 ug/kg × 2 doses) as forst line therapy for scabies.

Dermoscopy has been shown to be an excellent method of sarcoptes demonstration in-vivo. Sinecatechins 15% ointment (a green tea derivative) has recently been approved as a first-line therapy for genital warts, making it the first prescription botanical drug which is FDA-approved in the United States.

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Contact Dermatitis Symposium

Hairdressers with occupational contact dermatitis: Do they claim workers compensation?

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Introduction: Occupational contact dermatitis (OCD) is a common problem in hairdressing (1), but the prevalence of OCD in this occupation may not be accurately reflected in workers' compensation datasets.

Method: A retrospective analysis was performed of the PatchCAMS© database for all hairdressers assessed at the Occupational Dermatology Clinic, Melbourne between 1993 and 2010. WorkSafe workers' compensation claims data was obtained for the same time period, Claims data was also compared between 2004/2005 and 2008/2009 to identify any trends.

Results: 164 hairdressers or hairdressing apprentices were seen between 1993 and 2010. 157 (96%) were diagnosed with OCD, and 70% of these had a primary diagnosis of allergic contact dermatitis.

Claim rates by hairdressers for workers compensation in Australia over the same period were lower than expected, given the high prevalence of OCD seen in our patients, and that reported in the literature.

Overall, the rate of workers' compensation claims is decreasing; however OCD remains the 4th most common occupational disease for which workers compensation is sought for in Australia.

Discussion and conclusion: More needs to be done to address occupational risk factors to reduce hairdressers' dermatitis. In addition, hairdressers need to be aware of their compensation entitlements. Reliance on workers' compensation data for disease surveillance may lead occupational health and safety regulators to underestimate the magnitude of the problem.

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Latex allergy and reusable rubber gloves

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Introduction: Repeated or prolonged exposure to natural rubber latex, a protein based product, can lead to the development of immediate hypersensitivity in susceptible individuals. Proteins specifically associated with latex allergy have been found to adhere to glove powder present in disposable gloves, which have been strongly implicated as a major contributing factor in the development of latex allergy. However, there has been relatively little information in the literature about the likelihood of sensitization occurring from reusable, rather than disposable gloves, which has been recently summarized (1).

Methods: A retrospective analysis was performed of the PatchCAMS© database for cases of latex allergy diagnosed at the Occupational Dermatology Clinic and Contact Dermatitis Clincs, Melbourne between 1993 and 2010.

Results: There were 168 cases of latex allergy diagnosed in 7017 patients patch tested (and 7361 assessed overall). Latex allergy was the primary diagnosis in 72 cases. Although uncommon, we did find a number of cases of latex allergy occurring in wearers of reusable gloves.

Discussion and conclusion: Powdered, disposable gloves are much more likely to be associated with the development of latex allergy than reusable gloves. However, it is important to realise that reusable gloves may be associated with latex allergy. Other risk factors for latex allergy in our patient cohort will also be presented.

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Allergic contact dermatitis to methylisothiazolinone in baby wipes

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Methylchloroisothiazolinone/methylisothiazolinone (MI/MCI) is a common preservative used in cosmetic products and is a well-established cause of allergic contact dermatitis (ACD).

In 2005, MI alone was approved for use in cosmetic products, with a maximum permitted concentration of 25 times that allowed in the MI/MCI combination[1]. In August 2010, the first cases of MI causing ACD to cosmetic products were published, with reactions occurring to MI in shampoos, conditioners, liquid soaps, moist toilet tissues and makeup remover[2].

We report a series of cases from the Skin and Cancer Foundation in Victoria, of ACD occurring on the hands of parents who have used baby wipes (Huggies™ and Mamia™ brands), where MI was shown to be the causative allergen.

We also report cases of ACD to MI in other cosmetic products, including facial moisturising creams and a shampoo.

This case series provides further evidence that MI is an emerging allergen in cosmetic products, and is the first reported series anywhere demonstrating that ACD to MI in baby wipes is an important cause of hand dermatitis in parents.

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Allergic contact dermatitis to sunscreens in Melbourne

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Introduction: Our group previously reported in 1996 that irritant reactions to sunscreens are much more common than allergic reactions, and that allergic contact dermatitis to excipients is more common than reactions to sunscreen actives (1). In recent literature reports, octocrylene has emerged as a new sunscreen allergen and photoallergen. There are reports of simultaneous reactions to multiple sunscreen actives, occurring more commonly in patients with photodermatoses. Nevertheless, sunscreen allergy is not commonly observed.

Methods: A retrospective analysis was performed of the PatchCAMS© database for cases of sunscreen allergy diagnosed at the both the Occupational Dermatology Clinic and Contact Dermatitis Clinic, Skin and Cancer Foundation Inc, Melbourne, between 1993 and 2010.

Results: We identified 84 (1.3%) relevant reactions (allergic or photoallergic) to sunscreens, in a total of 6292 patients patch tested at over an 18 year period. There were 438 reactions of unknown or old relevance. We observed the most reactions to the UVB absorbers 2 hydroxy 4 methoxybenzophenone (oxybenzone, benzophenone 3) (24) and 2 hydroxy 4 methoxybenzophenone-5-sulfonic acid (benzophenone 4) (19), and then much less commonly to 4 tert butyl 4 methoxy dibenzoylmethane (Parsol 1789) (7), 2 ethylhexyl 4 methoxycinnamate (Parsol MCX) (7), and 3-(4-methylbenzilidene) camphor (Eusolex 6300) (5). Females were more likely to be affected with sunscreen allergy.

Conclusion: Sunscreen allergy is uncommon. The pattern of sunscreen allergy observed largely reflects the sunscreening agents used in the population.

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Cutaneous reaction to ultraviolet tattoo: Case report and a review of the literature

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Cutaneous reactions to tattoos are uncommon but are often striking. Tattoo reactions are diverse histopathologically and may be granulomatous, lichenoid, pseudolymphomatous, granuloma-annulare-like, pseudoepitheliomatous, as well as involving other less common reaction patterns. Allergic contact dermatitis to specific pigments may occur. In recent times, allergic contact dermatitis to p-phenylenediamine has caused reactions in temporary tattoos, falsely attributed to henna.

We report a case of cutaneous reaction to tattoos with ultraviolet ink, a relatively novel tattoo substance whose use may be increasingly common, and therefore of clinical importance.

Insights in Skin Cancer Management

Bilobed flaps – Getting the best result

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Bilobed flaps are double transposition cutaneous or musculocutaneous flaps with a complex design. The Zitelli modification reduces rotational pucker and permits the transfer of wound closure tension through a 90 degree arc.

The most common site for bilobed flaps is the lower nose but they may also be useful on the cheek, lower eyelid and ear. The meticulous design of the flap is paramount in achieving the best result but tips in execution include using the correct plane of elevation and undermining, optimal trimming of the lobes to size, the use of subcuticular and deep pexing sutures and post-operative nasal packing. Post operative problems may include distortion of surrounding structures, depressed scars, pincushioning and scar telangiectasia.

Good outcomes are further enhanced through massage, steroid injections, scar revision, laser resurfacing and treatment of telangiectasia.

Mohs micrographic surgery as treatment of Bowen's disease and squamous cell carcinoma of the nail unit

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We report a series of 14 cases of nail unit squamous cell carcinoma in situ (SCCis/bowens disease/BD) and

squamous cell carcinoma (SCC) treated with Mohs micrographic surgery (MMS). MMS has been previously reported as an ideal treatment for nail unit SCC. This series adds further weight to current literature substantiating this claim, and also demonstrates the excellent outcomes achieved with secondary intention healing.

Excisional biopsy of cutaneous melanoma – What we leave behind

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A wide local excision (WLE) is the standard treatment for cutaneous melanoma (CM) following excisional biopsy (EBx).The aim of this study was to determine how commonly residual primary, or metastatic melanoma is found in re-excision specimens following an initial EBxshowing histologically complete excision with clear margins.

819 consecutive EBx were identified from Jan 2000.The histological subtypes of the primary excision were: Superficial Spreading (SSM) – 551 (67%) cases, Nodular (NM) – 136 (17%) cases and LentigoMaligna Melanoma (LMM) – 53 (7%) cases. The locations were: Upper Back (UB) – 212 (26%) cases, Lower Extremity (LE) – 205 (25%) cases, Upper Extremity (UE) – 179 (22%) cases, Head & Neck (HN) 114 (14%) cases.

34 (4%) cases showed residual disease, of which 33 had a residual primary CM and 1 showed local metastatic melanoma. In 11 (32%) cases the residual primary was invasive. Of the 53 cases of LMM, 7 (13%) had residual disease. Of the 114 HN melanomas, 11 (10%) had residual disease.

On univariate analysis residual disease was associated with: LMM (Odds ratio: 4.17, p = 0.002), HN (Odds ratio: 3.166, p = 0.003) and Breslow Thickness (Odds ratio: 1.16, p = 0.018).As 63% of LMM are on the HN, a multivariate logistic regression was performed, suggesting that residual melanoma has a stronger associated with LMM than with HN.

These results show that the most important role of WLE is the removal of residual primary disease even when a clear margin is present in the initial EBx. The presence of residual primary disease in these circumstances is most often associated with thicker tumours and LMM.

Activation of Stat5 is an indicator of good prognosis in stage Ib and II melanomas

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Introduction: Despite advances in staging of melanoma through the sentinel node procedure it is difficult to predict whether patients with local invasive high risk melanoma are at risk of recurrence or death or whether they are cured. Our objective was to establish a prognostic multivariable assay on primary melanomas to predict outcome independently of classical clinic-histological covariates.

Methods and patients: High risk melanoma patients selected to undergo a sentinel node biopsy (Stage Ib and II) at the Princess Alexandra Hospital in Brisbane were recruited from 2000 to 2007. Primary melanoma tissue was obtained and analysed by immunohistochemistry. Follow-up information on recurrence and death was prospectively recorded.

Results: 545 melanoma patients were included. To date analysis has been performed on 117 patients for three markers: p16, Ki67 and P-STAT5. P-STAT5 expression was present mainly in the inflammatory infiltrate. A combined variable (CV) representing presence of p16, presence of P-STAT5 and Ki67 staining < 25% was used. When tested in multivariate cox proportional hazard models preliminary analyses on the 117 patients identified the CV as a strong independent predictor of disease free survival (HR = 0.14 [0.03–0.64], p = 0.01) in addition to age and sentinel node status (HR = 6.4 [2.5–16.7], p = 0.0001) in models where Breslow and ulceration were included and were no longer predictors. Similar findings were obtained for overall survival (HR for death = 0.11 [0.01–0.8], p = 0.03).

Conclusions: Combinations of molecular markers on primary melanomas have prognostic information of higher value than classical clinicopathological co variates such as Breslow index or Ulceration.

Targeting the intrinsic apoptosis pathway for melanoma therapy

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Introduction: Drug resistance in melanoma is commonly attributed to ineffective apoptosis pathways. Inhibiting anti-

apoptotic BCL-2 and its relatives is an attractive strategy for sensitizing lymphoid malignancies to drugs but it has been largely unsuccessful for melanoma and other solid tumors. ABT-737, a small-molecule BH3-mimetic, selectively inhibits BCL-2, BCL-XL and BCL-w and shows promise for treating leukemia, lymphoma and small cell lung cancer. Melanoma cells are insensitive to ABT-737 but MCL-1 inhibition reportedly increases the sensitivity of other tumors to the compound.

Method: The efficacy of MCL-1 and BFL-1 inhibition for sensitizing melanoma cells to ABT-737 was investigated by shRNA-mediated knockdown or overexpression of their antagonist *NOXA* in two-dimensional cell culture, a three-dimensional organotypic spheroid model, and an *in vivo* model.

Results: *MCL-1* downregulation or *NOXA* overexpression strongly sensitized melanoma cells to ABT-737 *in vitro*. NOXA-inducing cytotoxic drugs also strongly sensitized melanomas to ABT-737 although, surprisingly, not *vice versa*. The drugs most suitable are not necessarily those normally used to treat melanoma. Resistance to ABT-737 occurred quickly in 3D melanoma spheroids through reduced NOXA expression although experiments with both xenografts and 3D spheroids suggest that penetration of ABT-737 into tumor masses may be the principal limitation, which may be obviated through use of more diffusible BH3-mimetics.

Conclusion: Sensitization of tumors to BH3-mimetics by cytotoxic drugs that induce NOXA is a therapeutic strategy worth exploring for the treatment of melanoma and other solid cancers.

Nicotinamide for skin cancer prevention

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Introduction: UV- induced DNA photolesions, including cyclobutane pyrimidine dimers (CPDs) and 8-hydroxy-2′-deoxyguanine (8-oxoG) cause UV signature mutations, frequently found in non-melanoma skin cancers (NMSCs). Nicotinamide is a precursor for nicotinamide adenine dinucleotide (NAD), a cellular energy coenzyme and a subtrate for the DNA repair enzyme poly-ADP-ribose polymerase-1. We investigated the effects of nicotinamide on DNA repair, actinic keratoses, and NMSCs.

Method: HaCaT human keratinocytes were treated with 50 μM nicotinamide and exposed to solar simulated UV. Global DNA repair rate was measured with an unscheduled DNA synthesis assay, whereas CPD and 8-oxoG repair kinetics were investigated by comet assay. *Ex vivo* human skin, treated with the same doses of nicotinamide and UV, was immunostained with anti-thymine-dimer and anti-8-oxoG antibodies. Two double-blinded randomised controlled trials investigated the effect of nicotinamide (500 mg once or twice daily for 4 months) in healthy volunteers (n = 76) with multiple actinic keratoses (AKs) and high risk of NSMCs. AKs were counted at baseline, 2 and 4 months, and NMSCs developing during the studies were histologically confirmed and counted.

Results: Nicotinamide significantly increased the proportion of cells undergoing DNA repair and the intensity of DNA repair in HaCaT cells ($p = 0.011$ and $p = 0.049$ respectively). It enhanced repair of CPDs and 8-oxoG in both HaCaT cells ($p = 0.0001$ and $p < 0.0001$) and human skin ($p = 0.049$ and $p = 0.0023$). Nicotinamide significantly reduced AK (relative AK reduction = 0.32, 95%CI: 0.2–0.42, $p < 0.0001$) and the rate of new NMSCs (relative rate = 0.24, 95%CI: 0.08–0.71, $p = 0.01$). Nicotinamide is promising as a safe, inexpensive and already widely available agent for skin cancer chemoprevention.

Cost-effectiveness analysis of Mohs micrographic surgery versus traditional surgical excision for head and neck basal cell carcinoma in Australia

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Background: Mohs micrographic surgery (MMS) is regarded as the intervention offering the lowest recurrence rates for basal cell carcinoma (BCC) management, however it is also comparatively costly. Previous cost-effectiveness analysis of MMS versus traditional surgical excision (TSE) calculated an incremental cost effectiveness ratio (ICER) of €23,454/BCC recurrence avoided with MMS from a European hospital perspective, however significant differences in recurrence rate were identified in comparison to Australia data.

Objective: To perform a modelled cost-effectiveness analysis of MMS versus TSE for head and neck BCC from the perspective of the Australian healthcare system

Methods: A decision tree was constructed using TreeAge Pro 2011 software incorporating likely outcomes for primary BCC treated with MMS or TSE. Recurrence rates were identified from data obtained from the Skin and Cancer Foundation. Where required data was not available, a systematic review was performed and best available data utilised. Costings were obtained from the Medicare Benefits Schedule November 2011. Sensitivity analysis was performed incorporating a range of values depending on BCC size and recurrence rate employed.

Results: A preliminary ICER of AUD$870–3392/recurrence avoided was calculated for MMS depending on size and

recurrence rate utilised. This is appreciably lower than the ICER extant in the literature, with the discordance attributable to differences between Australian and European recurrence rates for both interventions.

Conclusion: MMS is more financially viable than previously appreciated in the management of head and neck BCC based on these preliminary findings. Further analysis including micro-costing, societal costs and quality-of-life measurement is to be performed.

Lymphoma and Immunotherapy Update

Cutaneous lymphomas: Diagnosis and management

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Thanks to the efforts of the lymphoma groups of both the World Health Organization (WHO) and the European Organization for Research and Treatment of Cancer (EORTC), a joint WHO-EORTC classification for primary cutaneous lymphomas had been proposed in 2005. The WHO-EORTC classification has been adsorbed with minor changes in the new WHO classification of tumours of haematopoietic and lymphoid tissues published in 2008, thus implying that the same language will be used worldwide by haematologists, dermatologists, and pathologists. The 2008 WHO classification includes for the first time primary cutaneous lymphomas as distinct subtypes of extranodal lymphomas in a general classification of lymphomas. Accurate diagnosis and classification of cutaneous lymphoma cases is the prerequisite for a correct management of these patients.

Table: Comparison of the 2008 WHO classification and WHO-EORTC classification of 2005 concerning primary cutaneous lymphomas.

WHO classification 2008 (*corresponding 2005 WHO-EORTC entity*)
Mycosis fungoides (*same*)
Sezary syndrome (*same*)
Adult T-cell leukaemia/lymphoma (*same*)
Primary cutaneous CD30+ lymphoproliferative disorders (*same*)
Lymphomatoid papulosis (*same*)
Primary cutaneous anaplastic large cell lymphoma (*same*)
Subcutaneous panniculitis-like T-cell lymphoma (*same*)
Extranodal NK/T-cell lymphoma, nasal-type (*same*)
Primary cutaneous CD8+ aggressive epidermotropic cytotoxic T-cell lymphoma (*same*)
Cutaneous gamma-delta T-cell lymphoma (*same*)
Primary cutaneous CD4+ small/medium-sized T-cell lymphoma (*same*)
Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (*Primary cutaneous marginal zone B-cell lymphoma*)
Primary cutaneous follicle centre lymphoma (*same*)
Primary cutaneous diffuse large B-cell lymphoma, leg-type (*same*)
Intravascular large B-cell lymphoma (*same*)
Blastic plasmacytoid dendritic cell neoplasm (*CD4+/CD56+ hematodermic neoplasm*)

T-cell lymphoma presenting in a "panniculitis-like" fashion: The devil is in the detail

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Subcutaneous panniculitis-like T-cell lymphoma (SPTCL) is a distinctive skin lymphoma that is characterised by infiltration of the subcutaneous tissue by neoplastic T cells mimicking panniculitis. It is an exceedingly rare condition thought to represent less than 1% of all non-Hodgkin's lymphoma[1]. SPTLC can often be difficult to differentiate from a benign panniculitis due to similarities in clinical and histological features between the two entities. It can also be a challenge to distinguish SPTCL from other T-cell lymphomas that can present in the subcutis, especially as the definition has continued to evolve over recent years. We present experience of this condition from a large tertiary hospital in Sydney. Cases were identified through a comprehensive search of the hospital pathology and Cerner databases using keywords. From our case series we will present data on the patient's initial presentation, area of initial involvement, the diagnostic tests including the haematological markers, histological findings as well as describe the treatment options and patient outcome. Previously thought to be an aggressive entity our experience has been that of an indolent process. SPTCL is a rare condition and our case series will help illustrate the clinical presentation, diagnostic pathway and management process.

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Diphencyprone topical immunotherapy for cutaneous metastatic melanoma

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We use diphencyprone (DPCP) in aqueous cream, applied topically once per week, to treat patients with extensive locally recurrent or cutaneously metastatic melanoma which is unsuitable for or resistant to surgery, radiotherapy or regional or systemic chemotherapy. In each patient, the

concentration of DPCP is titrated to produce a moderate contact hypersensitivity response at treated sites. Of 33 patients who have thus far completed at least 2 months of treatment, 55% achieved complete clearance of skin metastases, and 4 patients were also noted to have regression of metastatically involved lymph nodes. One patient displayed complete regression of all metastases in his skin, draining nodes and lungs. An additional 33% of patients showed partial response to DPCP, with either regression of some but not all skin lesions, or substantial slowing of the rate of disease progression. Hence 88% of treated patients have shown at least partial response to this inexpensive and relatively non-invasive treatment. Topical immunotherapy with DPCP should be considered for extensive cutaneous metastases unsuitable for other therapies.

Skin Cancer Symposium

Non melanoma skin cancer in Australia

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Background: Non Melanoma Skin Cancer (NMSC) places a significant high burden on the population, health care system and government. Serial surveys in 1985, 1990, 1995 and 2002 have mapped trends in skin cancer incidence and been used to evaluate the impact of skin cancer prevention campaigns.

Objective: To report the number and the cost of NMSC treatment in Australia between 1997–2010 and calculate future number and cost of NMSC.

Design: We obtained data from Medicare Australia for NMSC treated by excision, curettage, laser or cryotherapy for the period 1997 to 2010 by year, sex, age group, state and territory.

Main outcome measures: The total number and the total cost of NMSC treatments by year, sex, age group, state and territory with predictions for the future number and cost of NMSC in Australia for 2015.

Results: The total number of NMSC treatments increased from 412,493 in 1997 to 767,347 in 2010. The number of NMSC treatments will be 938,991 (95% CI: 901,047–976,934) in 2015 based on our predictions. The specific cost of NMSC treatments in 2010 was $93.5 million and will increase to $109.8 million (95% CI: $105.9–$113.7 million) in 2015. The total cost (diagnosis, treatment and pathology) is calculated at $512.3 million in 2010, and will increase to $626.8 million (95% CI: $609.2–$644.5 million) in 2015.

Conclusion: NMSC treatments increased by more than 86% between 1997 and 2010. We anticipate the number and the total cost of NMSC will increase by a further 22% between 2010 and 2015. NMSC will remain the most costly cancer and place an increasing burden on the Australian Health Care System.

In vivo confocal microscopy for diagnosis of melanoma and basal cell carcinoma using a 2-step method: Analysis of 710 consecutive clinically equivocal cases

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Introduction: *In vivo* reflectance confocal microscopy (RCM) allows the visualisation of the upper layers of the skin at cellular resolution. Our aim was to define on lesions excised in 2 specialized skin cancer clinics a model to accurately detect basal cell carcinoma (BCC) and melanoma (MEL).

Methods: The study comprised 710 lesions (216 MEL; 266 nevi; 119 BCC; 67 benign macules of the face (differential diagnosis of lentigo maligna); 33 actinic keratoses, Bowen's disease and squamous cell carcinomas and 9 dermatofibromas). The frequency of 47 features was recorded for each lesion.

Results: The diagnostic accuracy of the BCC algorithm (containing 8 independently significant features) defined on multivariate analysis of the training set (50%) and tested on the remaining cases was 100% sensitivity (52/52 BCC); 88.5% specificity; AUC = 0.998. Positive features included polarized elongated structures, telangiectasia and convoluted vessels, basaloid nodules, epidermal shadowing corresponding to horizontal clefting. Negative features were non-visible papillae; disarrangement of the epidermal layer and cerebriform nests. Multivariate discriminant analysis on the training set (excluding the BCCs) identified 7 independently significant features for MM diagnosis. The diagnostic accuracy of the MM algorithm on the test set was 87.6% sensitivity (92/105 MM); 70.8 % specificity (226/319 others without BCC), AUC = 0.854. The 4 invasive MM that were misdiagnosed by RCM were all of nevoid subtype.

Conclusion: RCM is a highly accurate non-invasive technique for BCC diagnosis. Some illustrations and practical indication will be detailed.

ERIVANCE BCC: A pivotal trial of the hedgehog pathway inhibitor vismodegib in locally advanced or metastatic basal cell carcinoma

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Introduction: Most basal cell carcinomas (BCCs) are managed surgically, but occasionally progress to locally advanced (la) or metastatic (m) disease. Vismodegib (GDC-0449), a first-in-class small-molecule hedgehog pathway inhibitor, showed a 55% response rate in patients with mBCC and laBCC in Phase I, leading to this pivotal study.[1,2]

Methods: In this nonrandomised confirmatory study, patients received 150mg/day oral vismodegib until disease progression or intolerability. Patients with laBCC had histologically confirmed inoperable disease (or surgery would be significantly disfiguring); those with mBCC had histologically confirmed, radiographically measurable metastases. An independent review facility (IRF) assessed response rate (RR; primary endpoint) using RECIST for mBCC and a novel composite endpoint for laBCC. Secondary endpoints included duration of response, response per investigator (INV) and safety.

Results: In total, 104 patients (71 laBCC) were enrolled at 31 sites (USA, Europe, Australia). For laBCC, RRs were 43% (95% CI 31–56%; $p < 0.0001$) by IRF and 60% (95% CI 47–72%) by INV. For mBCC, RRs were 30% (95% CI 16–48%; $p = 0.0011$) and 46% (95% CI 28–62%), respectively. Median duration of response was 7.6 months by IRF (laBCC and mBCC). Adverse events (AEs) in ≥30% of patients were muscle spasms, alopecia, taste disturbance, weight loss and fatigue. Serious AEs occurred in 26 patients (25%). Clinical photographs, including the presenter's own cases, will be presented.

Conclusion: This pivotal study confirms the substantial efficacy of vismodegib for advanced BCC, further characterises its safety profile and demonstrates the potential role of vismodegib as a new treatment for advanced BCC.

Management of perineural invasion

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Perineural invasion (PNI) describes tumour growth in and around a nerve. It is an uncommon finding in non-melanoma skin cancer but has the potential for serious sequelae, most commonly local recurrence in the skin and cranial nerves.

Assessment of the severity of PNI is based on clinical, pathological and imaging findings. Clinical problems include sensory and motor abnormalities. Histology helps to clarify the number, size and location of involved nerves. MRI and CT imaging assist in diagnosis and assessment of PNI.

Mohs surgery is indicated for the extirpation of cutaneous disease but a multidisciplinary approach with neurosurgical and plastic surgeons and radiation oncologists is required for more extensive disease.

Occupational skin cancer in Australia: A review

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A recent review of the available epidemiological evidence by a group of German dermatologists found an increased risk of cutaneous squamous cell carcinoma (SCC) in individuals with occupational ultraviolet light exposure. To-date, there have been only two studies performed in Australia to analyse the association between occupational ultraviolet light exposure and skin cancer despite Australia having the highest incidence of skin cancer in the world. The two studies, performed in the 1980s, showed non-significant increases in SCC risk among outdoor workers whilst at least 12 studies performed in Europe and North America from 1971 to 2005 have shown a positive association between occupational ultraviolet light exposure and SCC risk. Highlighting the lack of local data, another Australian paper on occupational cancer estimated the number of occupational skin cancers in Australia using the "Finnish seafarer" effect: applying the Finnish estimate of proportion of skin cancers caused by the sun in Finnish seafarers to Australian numbers of cancers, producing an estimate of 34,000 skin cancers per year. We discuss the design of a research project to be performed at the Skin and Cancer Foundation in Melbourne to investigate this issue.

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Cosmetic Dermatology Symposium

How to make lips beautiful and appropriate – Without the duck?

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The things that go wrong to that tend to make people look like "ducks" or "trouts" and are fixed by better understanding include:

1. Having only the vermilion treated i.e. the red part of the lips in an older patient in particular
2. Having too much product in the centre of their lips
3. Having too much product in their upper lips or not achieving balance between upper and lower lips
4. Placing product throughout the lip without paying attention to defining features – the shapeless or sausage lip
5. Having just too much product generally placed in their lips
6. Not retaining balance with the surrounding structures in the perioral area or the face generally.
7. All the above points look worse and discordant in the older lip

This is all avoidable but to avoid these issues requires an understanding of the 5A's of lip rejuvenation, which is especially relevant in the older or thin lipped patient

The 5A's are:

1. Aesthetics
2. Anatomy
3. Ageing
4. Assessment and
5. Approach

An understanding of these is imperative if one is to optimise and individualise a patient's experience and to avoid making them look somewhat ridiculous.

Cosmetic quirks

M. Hunt
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A series of vignettes will be presented exploring some of the more "quirky" aspects of cosmetic dermatology including: can Botulinum toxin injections really alter our moods?; finger tapping for pain relief; laser paradoxes; the latest craze in fillers (could we be masking a sign of heart disease?); the poor man's Latisse® and more!

Pain control in cosmetic dermatology

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Pain management is an important aspect of procedural dermatology. Patients tend to assess operator skill on the basis of the quality of procedural pain control. Painful procedures can deter repeat procedures and generate negative word-of-mouth.

The perception of pain results from the interaction between the patient's pain threshold and the nature of the procedure. Patient pain threshold can vary considerably and is influenced by intrinsic factors such as anxiety, depression, concomitant pain (e.g. migraine, menstrual cramps) and extrinsic factors such as the clinic environment and staff affect.

Pain control through anxiety-allaying measures such as a 'positively reinforced' informed consent, a calm environment, relaxation music, use of stress balls and 'talk-aesthesia' should be routine. Anxiolytics and pain-modulation with peri-procedural analgesics, benzodiazepine, nitrous-oxide/ penthrox may be additionally necessary in a subset of patients.

Many cosmetic procedures involve injectables and energy devices. Pain associated with injectables can be influenced by factors such as needle gauge, speed of injection, depth of injection and product characteristics. Energy devices cause discomfort through the degree and extent of skin heating, ablation depth and pulse duration, and some of these parameters can be manipulated to a certain extent to decrease pain.

Finally, use of topical anaesthesia and skin cooling have become standard practice in cosmetic dermatology. Proprietary and compounded topical anaesthesia will be discussed along with the various methods and technique of skin cooling.

Fractionated CO_2 laser for congenital melanocytic naevi

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The removal of cosmetically sensitive benign congenital melanocytic naevi is problematic. A number of ablative laser and combination ablative and non-ablative systems have been used to date including erbium and CO_2 ablation with Q switched Neodymium Yag treatments. With the introduction of fractional ablative lasers another approach is now possible. It is now possible to achieve almost complete normalization of colour with multiple sessions of CO_2 fractional laser. An average of 10 treatments is required to minimise the possibility of scarring.

There is a critical ablation density that is required to achieve this fading (approximately 30% of the naevus needs to be ablated per session). The power of the laser should be adjusted to ensure that the penetration of the laser approximates the base of the naevus. A pigment specific laser may also be required for the more superficial pigment components. The CO_2 treatment alone will not remove the associated terminal hair. The hair can be removed with an appropriate laser or IPL system after the Naevus itself is faded. The parameters are still to be optimised to minimise treatments and any textural change. Healing is rapid and occurs within 5 to 7 days.

Free Papers Session

Efudix chemowraps

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Management of squamous cell carcinoma on the lower legs is complicated by poor definition of the tumours while treatment typically requires radical excision and skin grafting. Diffuse hypertrophic solar keratoses and squamous cell carcinoma in situ can be difficult to distinguish from squamous cell carcinoma in these patients. A series of six patients are described who underwent a technique of weekly topical Efudix applications under xinc oxide wraps. All patients tolerated the treatment well. During the course of 4–8 weeks there was a reduction in the number of background lesions. Invasive tumours were better defined, limiting surgical excision size and the surrounding skin was better prepared for operative treatment. The effect appears sustained over a limited one year follow up.

This paper was presented at the New Zealand Dermatological Society Meeting, Wellington 2011.

The Kynurenine pathway in morphea

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Morphea is an idiopathic fibrosing condition of the skin well known to dermatologists. L tryptophan is an essential amino acid. Its use as a dietary supplement was associated with the eosinophilia-myalgia syndrome[1]. The kynurenine pathway is the metabolic pathway by which L-tryptophan is converted to nicotinamide adenine dinucleotide. Alterations in this pathway with increased levels of the metabolites L-kynurenine and quinolinic acid have previously been reported in eosinophilia-myalgia syndrome[2].

The Queensland Institute of Dermatology is currently undertaking research into the role of the kynurenine pathway in morphea. Biopsies from involved and non involved skin of patients with active disease have been immunohistochemically stained for quinolinic acid, a metabolic intermediate and indoleamine 2, 3 dioxygenase the rate limiting enzyme. The theoretical background of this research, results and possible implications will be presented.

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Hair follicles and wound healing

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Introduction: Correlation between the presence of hair follicles (HF) and skin wound healing has long been noted. Shallow wounds, where portions of HF remained intact, healed more quickly than deeper wounds [1]. The participation of follicular keratinocytes in wound healing has been well documented [2, 3] and a delay in wound healing has been observed in skin without HF [4]. In this study, the role of HF transplantation and the participation of HF cells in wound healing was investigated.

Method: Whisker HF from GFP-expressing (actin promoter) mice were transplanted onto the right side of 6 nude mice. Six weeks later, 6 mm full thickness wounds were applied on both the left and right side of the mice. After 7 days, wound sizes were compared in macroscopic photographs, and wound biopsies were analysed histologically.

Results: Histological analysis showed the presence of GFP-labelled epithelial cells in the wounds adjacent to transplanted HF. Reduced wound sizes adjacent to transplanted HF were indicated in histology study ($P = 0.053$). These results suggest that HF transplantation may have the potential to improve the healing of chronic wounds. Considering the outer surface of the hair follicle contains epidermal and dermal stem cells, hair transplantation would introduce a source of dermal and epidermal cells into the wound area.

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Pemphigus vulgaris and Rituximab: A series of three cases

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Treatment of pemphigus vulgaris (PV) traditionally involves the use of systemic corticosteroids with additional immunosuppressant agents often utilised concurrently. The chimeric anti-CD20 monoclonal agent, rituximab, is providing an adjunct or alternate treatment for patients with severe PV, allowing the side effects of more traditional therapies to be reduced or eliminated[1,2]. We present three patients with recalcitrant, biopsy proven PV successfully treated with varying regimes of rituximab (375 mg/m^2). Each patient had an inadequate response to high dose prednisolone and mycophenelate mofetil. Two of the three also had prior treatment with azathioprine and intravenous immunoglobulin with minimal clinical improvement. Following rituximab, each patient experienced rapid improvement for a protracted period compared with previous treatment regimes.

One patient has experienced incomplete remission, requiring repeated dosing (375 mg/m^2) on five further occasions, varying between six and thirty six months post the prior infusion, one patient has experienced partial remission and required one further series of two infusions (375 mg/m^2) eight months after his initial treatment and one patient has experienced complete remission after a single course of two infusions (375 mg/m^2) though remains on low dose mycophenelate mofetil and prednisolone.

Rituximab provides a safe and effective treatment in PV with reduced treatment-associated adverse effects compared to traditional therapies[1]. The clinical improvement achieved can be prolonged (up to thirty-six months in the patients discussed here) but some patients require intermittent dosing (between six months to thirty-six months in our patient series) to maintain symptom control[2].

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Increased lymphatic angiogenesis in melanomas occurring during gestation and correlation to prolactin signaling

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Background: The relationship between pregnancy and melanoma remains controversial. Melanomas during pregnancy have increased lymphangiogenesis resulting in increased rates of metastases in animals. The molecular link between pregnancy and lymphangiogenesis remains elusive. A major pregnancy associated hormone is Prolactin that signals through STAT5 and we therefore hypothesised that the JAK/STAT5 pathway may be this missing link.

Objectives: we aimed to (1) evaluate STAT5 activation in melanomas occurring in pregnant and non pregnant controls. (2) correlate STAT5 activation with the levels of lymphangiogenesis in relation to the level of lymphatic vessel angiogenesis.

Methods: We conducted a retrospective case control study comparing the presence of Phospho-STAT5 (P-STAT5), CD34 and D2–40 staining in melanoma samples from pregnant and age, sex, Breslow and AJCC stage matched non pregnant controls.

Results: 26 women with melanoma (13 pregnant and 13 non pregnant) were included. P-STAT5 was detected in the tumor area of 19 of the 24 woman found mostly in the inflammatory infiltrate and in the endothelium. The expression of P-STAT5 by the different cell populations was not different between pregnant and non pregnant women. Lymphangiogenesis was increased in pregnant women. P-STAT5 staining by inflammatory cells in the tumor correlated with higher lymphatic vessel density ($p < 0.02$).

Conclusions: Activation of STAT5 in the tumor area correlates with increased lymphangiogenesis in women with melanoma, independently of the pregnancy status.

Definitions and outcome measures for bullous pemphigoid: Recommendations by an international panel of experts

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Bullous Consensus Group
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Bullous pemphigoid (BP) is a common autoimmune bullous disease typically affecting the elderly. There have been only a handful of well-designed randomized controlled trials assessing the effectiveness of therapies for BP. In relatively rare diseases where it is difficult to include enough patients to have sufficient power to compare different treatments, meta-analysis is a powerful tool that is used to pool data across trials. However, it is impossible to compare the therapeutic outcomes from the majority of these BP studies using metaanalysis, as they have varying definitions and outcome measures. There is a lack of generally accepted definitions for the clinical evaluation of patients with BP. Common terms and end points of BP are needed so that experts in the field can accurately measure and assess disease extent, activity, severity, and therapeutic response, and thus facilitate and advance clinical trials.

This Consensus Statement from the International Pemphigoid Committee represents 2 years of collaborative efforts to attain mutually acceptable common definitions for BP and proposes a disease extent score, the BP Disease Area Index. These items should assist in the development of consistent reporting of outcomes in future BP reports and studies.

Filariasis in Fiji

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120 million people worldwide are infected by one of the filarial worms, which produces the condition known as filariasis. It is one of the WHO classified "neglected tropical diseases".

In Fiji, filariasis is due to the microfilarial worm, Wucheria bancrofti which is transmitted by infected mosquitoes.

At least half of the people infected with lymphatic filariasis show no signs of the disease (asymptomatic). However, the chronic signs of lymphatic filariasis often seen in adults include elephantiasis, hydrocele and lymphoedema. Dermatologic presentations and complications are a major contributor to the disability caused by this disease.

Filariasis has been endemic in Fiji, as well as throughout the Pacific, and is still considered a public health problem in Fiji . Under the assistance of WHO and other donor agencies, Fiji has been undertaking a Mass Drug Treatment (MDA) programme and other measures to eliminate filariasis as a major health issue.

The use of multi-photon microscopy as a tool for studying elastin and elastin-related disorders in human skin

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Multi-photon excitation laser scanning microscopy (MPM), relying on simultaneous absorption of two or more photons by a molecule, has been proposed as a novel diagnostic tool in biomedical imaging. Although applied in experimental skin biology, it has potential applications in clinical research due to the high penetration depth of infrared laser light. Current imaging modalities include dermoscopy, ultrasound, reflectance confocal microscopy (RCM) and optical coherence tomography.

Elastic fibres, composed of two proteins elastin and fibrillin, form a network throughout the dermis and provide the skin its ability to stretch and recoil. Sun-damaged skin is characterised by its leathery appearance with deep furrows, telangiectasia and changes in skin pigmentation. Accumulation of abnormal elastic material, termed solar elastosis, is a prominent histological finding in photo-damaged skin.

Using MPM, we demonstrate with histological resolution the morphological differences between normal and sun-damaged skin in human skin samples. We find that there is a marked difference in both thickness and shape of elastic fibres in photo-damaged skin compared to non-exposed skin. Furthermore, changes in these fibres were demonstrated in other elastin-related disorders. Of note, in a case of Pseudoxanthoma elasticum (PXE)-like syndrome we showed extensive abnormal, curled and frayed elastic fibres in the reticular dermis that is characteristic of PXE using MPM.

Similar to the evolution of RCM from a research setting to actual clinical use, it is anticipated that this technology may become available as an adjunct to clinical diagnosis and

monitoring of many skin conditions by providing real-time diagnostics in a non-invasive manner.

Registrars' Forum

Vulvar psoriasis in adults and children: A clinical audit of 194 cases and review of the literature

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Introduction: There is little data on psoriasis as it affects the vulva in the medical literature. This observational study aims to describe the symptoms, signs and management of vulvar psoriasis in adults and children.

Methods: Between January 2009 and October 2011, 201 patients presenting with a chronic non-infective erythematous vulvitis without vaginal involvement and data was collected prospectively and coded as psoriasis in a computerised database. A review of the existing literature on vulvar psoriasis was used to generate inclusion criteria for which 194 of these patients reached and were reviewed in the study.

Results: Only 12.3% of patients presented with psoriasis as a provisional diagnosis with an average symptom duration of 4.5 years (range 6 weeks to 35 years). The commonest presentation was an itchy, bilaterally symmetrical, erythematous, non-scaly, well demarcated macular eruption or slightly raised plaque (82.5%) however in 9.2% of patients there was only diffuse symptomatic erythema, while 8.2% were symptomatic without erythema. In 64.9% of patients evidence of psoriasis was found on other parts of the skin. Initial induction treatment with potent topical corticosteroid followed by maintenance treatment with less potent topical steroids and other psoriasis-specific treatment such as tar creams and calcipotriol resulted in suppression of disease in 93.8% of patients over a mean follow up duration of 8.9 months (range 1 month to 7.25 years).

Conclusion: Vulvar psoriasis is a difficult diagnosis that should be considered in patients presenting with a chronic erythematous vulvitis without vaginitis. It is a chronic relapsing skin condition that requires long-term management.

A case series of leprosy in New South Wales

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Leprosy is a rare, notifiable disease in Australia. In 1999 the World Health Organisation established the Global Alliance to Eliminate Leprosy (GAEL) which aimed to eliminate the disease by 2005. Elimination was defined as reducing the prevalence to one case per 10,000. Australia met this goal in 2002. Most cases of leprosy in Australia today occur in patients who have lived in, or returned from endemic areas. In 2008 there were 11 cases reported in total.

We discuss 3 cases that presented in Sydney, NSW, in 2011. Firstly, a 33 year old Nepalese man living in Australia for 6 years with erythemaous truncal plaques and associated peripheral neuropathy consistent with borderline tuberculoid downgrading to borderline lepromatous leprosy. Secondly a 27 year old Sri Lankan man with widespread prominent plaques and symmetrical nerve involvement consistent with borderline lepromatous leprosy. The third case is a 55 year old well-travelled Caucasian Australian man who presented with two small circular scaly plaques on his back. Biopsy was consistent with tuberculoid leprosy.

Leprosy has an incubation period of many years and typically diagnosis can be delayed. The disease can present with a wide spectrum of clinical appearances which stem from varying host immune responses to the pathogen, *Mycobacterium leprae*. This small case series illustrates the varying clinical picture of leprosy, and reminds the dermatologist to always consider this disease in the differential diagnosis of erythematous or hypopigmented plaques with or without associated sensory/motor nerve disturbance.

Rural tele-dermatology an opportunity for vertical integration of training

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In 2010 Queensland Rural Medical Education introduced specific training for GP registrars in the use of dermoscopy and particularly the three-point checklist. In 2011, QRME won grant funding to further expand its program integrating practice-based learning employing teledermatology. With the support of an Education Innovation Project grant from the Commonwealth Department of Health and Ageing, General Practice Education and Training (GPET) dermatoscopes and digital cameras were purchased for teaching

practices. These practices involve medical students, PGPPP doctors, GP registrars and supervisors. The teledermatology portal employed has been provided as part of the Australian College of Rural and Remote Medicine (ACRRM) Tele-derm service. Within Tele-derm a QRME subgroup was established.

Rural GP Registrars are required to submit cases including possible pigmented skin cancer via a Tele-derm portal using a report template for reading and advice provided by a supervised Dermatology Registrar. The existing Tele-derm library of cases was used to create general dermatology resources modelled on the RACGP and ACRRM curriculum in dermatology.

This represents a vertically integrated Dermatology educational program involving rural GP teaching practices, a Dermatology registrar and a Dermatology consultant. We reviewed the application of the three-point checklist by the registrars and undertook a comprehensive survey regarding registrar dermatology experience. The results presented are a small part of what is an ongoing Tele-derm project.

Venous malformations: Clinical course and management of vascular birth mark clinic cases

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Venous malformations (VM) are an uncommon vascular malformation with an estimated incidence of 1–2 per 10000 births[1]. VMs are heterogenous vascular malformations that may result in significant morbidity. The objective of the study was to define the clinical characteristics of children with VM and their management. We performed a retrospective chart review of all children presenting to the Vascular Birth Mark clinic with VM over a 10 year period. Additional information was obtained by telephone interviews with parents. Demographic and clinical features, diagnostic imaging, treatments and complications were recorded.

Although usually present at birth, diagnosis is often delayed due to deep subcutaneous or intramuscular location, and slow growth as a result of gradual venous dilation. The majority of lesions are of a sporadic nature. The most common treatment modalities used are compression garments, sclerotherapy, and endovascular laser. The most frequently associated complications are pain and limb length discrepancies. Recent reports suggest that all VMs are associated with elevated D-dimers and risk of coagulopathy. As a result, blood testing for coagulopathy is a relatively recent addition to assessment procedures and incomplete data exists for the current retrospective cases. It is planned that future analysis will examine this association.

Given the frequent association of VM with other vascular lesions, increased morbidity and required treatment, a multidisciplinary approach to management including dermatology, diagnostic and interventional radiology and paediatric surgery is important.

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Nodular lesions arising in a giant congenital melanocytic naevus

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A full term female Caucasian infant was born with a giant congenital melanocytic naevus in the bathing trunk distribution. A large nodule was present at the right upper flank and a further smaller nodule developed on the left buttock. Surgical excision was performed after ultrasound demonstrated a circumscribed, hypoechoic mass measuring $2 \times 2 \times 0.8$ cm lying in the dermis- subcutaneous fat interface.

Microscopically these two lesions showed similar features. Superficially there was a congenital compound naevocellular naevus with a heavily pigmented junctional component and a lightly pigmented dermal component extending into the septa of the subcutaneous fat. The naevus stained positive for S100, HMB45, MelA and Bcl-2. This unremarkable naevoid lesion merged with a deeper lesion which was morphologically quite different. A primitive bland spindle and polygonal cell proliferation with abundant dilated blood vessels was present in the dermis extending to the subcutaneous tissue. Although some features were consistent with a benign proliferating nodule, the cells were smaller than the overlying naevus and most significantly the cells were negative for the melanocytic stains S100, HMB45, melA, and weakly positive for Bcl-2.

Nodules present in a GMN should be biopsied to rule out melanoma and other malignancies however the pathology is often difficult to interpret.

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Concurrent Langerhans cell histiocytosis and Hodgkin's Lymphoma

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We present an atypical case of Langerhans cell histiocytosis and concurrent Hodgkin's Lymphoma in a 35 year old female. Langerhans cell histiocytosis (LCH) is a rare disease with an extremely rare association with Hodgkin's Lymphoma.

The patient developed erythematous violaceous nodules and plaques in the groin, axillae, and sub-mammary area, as well as multiple ulcerated plaques on the occipital scalp. Skin biopsy revealed a heavy dermal infiltrate of S-100/CD1a positive histiocytes with electron microscopy showing Birbeck granules, which are pathognomonic of Langerhans cell histiocytosis. Further investigation revealed mediastinal lymphadenopathy. Mediastinoscopy and biopsy revealed classic nodular sclerosing Hodgkin's Lymphoma.

This case highlights the need for the clinician to consider Langerhans cell histiocytosis when a patient presents with flexural erythematous nodules and/or ulcerated scalp plaques. It also demonstrates the rare but important association between Langerhans cell histiocytosis and Hodgkin's Lymphoma. To date, the cause of this association is unknown.

Combination therapy with finasteride and dutasteride in the treatment of androgenetic alopecia

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Finasteride is a selective type II 5α reductase inhibitor, approved for the treatment of androgenetic alopecia (AGA). Hair regrowth occurs in approximately two thirds of men, and maximal hair regrowth is seen at two years. Thereafter, despite continued treatment, hair density declines, albeit more slowly than in the placebo group[1].

Dutasteride is a dual (type I and II) 5α reductase inhibitor which in Phase II trials has showed superior efficacy to finasteride[2].

We report a 47 year old gentleman who was treated initially with finasteride for AGA. Hair regrowth was noted at one and two years, however after four years of continuous treatment, it was observed that his hair density had begun to decline when compared to photographs taken at the end of year two. Addition of low dose dutasteride at 0.5 mg per week to his finasteride treatment resulted in a dramatic increase in hair density.

This case illustrates for the first time that low dose, combined therapy with finasteride and dutasteride can result in improved hair density when response to finasteride monotherapy declines.

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***Balamuthia mandrillaris* infection presenting as cutaneous granulomatous lesions in an otherwise healthy Australian female**

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Granulomatous reaction patterns are not an uncommon finding in skin biopsies and necessitate that the clinician exclude infectious causes. We present a case of granulomatous skin lesions due to cutaneous amoebiasis occurring in a patient without identifiable risk factors and in whom all standard testing to exclude infectious causes was initially negative. During investigations and management of the granulomatous skin lesions our patient developed symptomatic amoebic cerebral abscesses. Aggressive therapy including surgical excision of the cerebral abscess and prolonged systemic antimicrobials was employed successfully making this patient one of only five reported survivors of cerebral amoebiasis. The antimicrobial regimen comprised pentamidine, which was later substituted with liposomal amphotericin due to toxicity, azithromycin, itraconazole, sulphadiazine and flucytosine. This case highlights that although amoebic infection of the skin is rare, this ubiquitous environmental organism should be considered in refractory or atypical granulomatous skin disease as, undiagnosed, this condition may progress to cerebral amoebiasis.

A mathematical model for decreasing the surface area of surgical excisions

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Background: Repair of lower extremity excision defects poses a surgical challenge, and as a result split-thickness

skin grafting is often used to close large defects. By minimising the size of the defect, a smaller graft can be used and this may translate into improvements in wound healing and the aesthetic outcome.

Objective: To demonstrate, using a mathematical model, how to decrease the surface area requiring split thickness skin grafting of excisions on lower extremities.

Methods: Four patients had cutaneous neoplasms excised from their lower legs. The resulting defects underwent partial primary closure with removal of Burows' triangle. The new dimensions of the defect were recorded and surface area of pre- and post-primary closure calculated.

Results: Modest decreases in the dimensions of the ovoid/ellipsoid defect translated to large decreases in the surface area requiring split-thickness skin graft repair.

Conclusion: We have quantified using a mathematical model, how it is possible to decrease the size of an excision site. This reduction in surface area may translate to benefits in a patients post-operative outcomes.

First experiences of using reflectance confocal microscopy in equivocal skin lesions in Queensland

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Introduction: Reflectance Confocal Microscopy (RCM) is a non-invasive method of imaging human skin in-vivo. RCM uses a near-infrared laser to produce quasi-histological quality images of the skin layers in a horizontal plane.

Method: Fifty equivocal skin lesions on 42 patients were imaged using RCM immediately prior to the lesions being excised. The images were then analysed blind to the histological diagnosis. The experience and problems encountered when using RCM on skin lesions for the first time was also observed.

Results: ON RCM analysis 12/13 melanomas (92.3% sensitivity, 75% specificity), 19/22 benign naevi (86% sensitivity, 95% specificity), 6/9 basal cell carcinomas (66.7% sensitivity, 100% specificity) and 6/6 squamous cell carcinomas and its precursors (100% sensitivity, 75% specificity) were diagnosed correctly when using histology as the gold standard. We identified three common problems that affected image quality: object artefacts; positioning artefacts; and movement artefacts.

Conclusion: Using simple techniques we found that common RCM features were readily identifiable and common artefacts could be minimized, making RCM a useful tool to aid the diagnosis of equivocal skin lesions in a clinical setting.

***Staphylococcus lugdunensis*: A new pathogen for dermatologists**

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A 59 HIV positive male presented with a multi-loculated abscess to his lower back. A similar lesion had been incised and drained previously with a healing time of 4 weeks observed. There was no associated fever, CD4 count was > 800 and viral load undetectable. The lesion was drained and the seropurulent fluid sent for culture and microscopy. Leucocytes were observed with no bacteria. Culture demonstrated a pure growth of a coagulase-negative staphylococccus, subsequently identified as *Staphylococcus lugdunensis*, sensitive to all antibiotics tested, including penicillin. Following drainage and instigation of antibiotic treatment, gradual yet complete resolution was observed.

Staph. lugdunensis, like *Staph. epidermidis* is a coagulase negative staphylococcus although in many respects behaves more like *Staph. aureus*[1]. It is most commonly isolated as a commensal from the groin although has recently been shown to cause serious infections with high morbidity and mortality, such as endocarditis and infected joint prostheses[2]. It is now also recognised as being able to cause abscesses, wound infection and cellulitis, with most infections secondary to trauma, surgery or skin disease.

This clinical case highlights the need for dermatologists to be aware that laboratory reports stating "no pathogenic organisms identified" do not exclude opportunistic pathogens such as *Staph. ludgunensis* which have been previously considered only as normal flora.

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Methotrexate for treatment of atopic dermatitis in children and adolescents: A retrospective study at Waikato District Health Board

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The efficacy of methotrexate for the treatment of atopic dermatitis is well established in the adult population; however there is lack of data to support its use in the paediatric population.

A retrospective review was performed on all patients aged up to 18 years who were started on methotrexate for treatment of atopic dermatitis at Waikato District Health Board between January 2005 and April 2011. The total number of patients studied was 31. 17 were female and 14 were male. The average age at treatment commencement was 10 years. The median starting dose was 5 mg weekly for patients aged 0–5 years; and 10 mg weekly for the 6–10 years, 11–14 years and 15–18 years age groups. The median final dose was 7.5 mg weekly for those aged 0–5 years, 10 mg weekly for the 6–10 years and 11–14 years age groups, and 15 mg weekly for those 15–18 years. Long-term clinic review normally took place each 3 to 6 months. Blood monitoring routinely included the full blood count, liver and renal function, and often included type III procollagen and baseline hepatitis serology. A pre-treatment chest x-ray was done for 2 patients.

During the treatment period, the commonest adverse effects were gastrointestinal upset (4 patients) and elevation of the liver enzymes (4 patients). Anaemia was noted in 2 patients. Serious infections occurred in 2 patients – these were pyelonephritis and a viral asthma exacerbation. Methotrexate was considered effective in 21 patients, and ineffective in 7 patients. 1 patient withdrew from treatment after just 1 dose and 2 patients were lost to follow-up.

Refractory acquired idiopathic cold urticaria treated with Danazol

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Acquired idiopathic cold urticaria is a form of physical urticaria provoked by cold exposure. Antihistamines represent first line therapy, however, symptom control may be difficult to achieve. Limited data suggest that danazol may be an effective alternative therapy for cholinergic urticaria[1,2,3], but its effectiveness in cold urticaria is unknown.

We report a case of a 61-year-old woman with a 2.5-year history of acquired immediate cold urticaria. Despite treatment with high-dose antihistamines, monteleukast, hydroxychloroquine, methotrexate and cyclosporin, she continued to experience debilitating symptoms. Treatment with danazol resulted in marked and rapid improvement in the control of her urticaria. As far as the authors are aware this is the first report of danazol being effective in the treatment of acquired idiopathic cold urticaria.

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As if one wasn't enough: The management challenge of autoimmune conditions arising in association with Good syndrome

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The association between thymoma and autoimmune disease is well recognised. Good syndrome is a rare disorder characterised by previous or current thymoma in association with a primary combined immunodeficiency, most commonly hypogammaglobulinaemia and B lymphocyte deficiency. Patients with Good syndrome typically have recurrent sinopulmonary and other infections, and the majority of these patients have at least one autoimmune condition.

Our first case is of a 58-year-old woman with long-standing vitiligo and chronic idiopathic urticaria, who developed a host of autoimmune conditions, including vulvovaginal erosive lichen planus, Addison disease, Sjogren syndrome, and idiopathic dystonia, culminating in the diagnosis of Good syndrome followed by thymectomy in 2002. Since that time she has further developed primary sclerosing cholangitis.

The second case is of a 53-year-old woman with long-standing mucous membrane pemphigoid. A benign thymoma was found incidentally on chest imaging during investigations for recurrent pneumonia and excised thorascopically in 2005. Good syndrome was diagnosed the following year with the development of hypogammaglobulinaemia and peripheral B lymphocyte deficiency. Since that time, she has developed pure red cell aplasia, autoimmune thrombocytopaenia, and lichen planus pigmentosus.

Both cases highlight the management challenges of autoimmune disease in the context of Good syndrome, with a complex interplay of primary immunosuppression, autoimmune phenomena, recurrent infections, medication side-effects and the maintenance of nutrition.

Invida Sponsored Breakfast: Advances in the Pathogenesis and Treatment of Atopic Dermatitis

Advances in the pathogenesis and treatment of atopic dermatitis

T.A. Luger
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Atopic dermatitis (AD) is a multigenic chronic inflammatory disease characterized by eczema and pruritus. Recent progress has been achieved in our understanding about the complex mechanisms underlying the pathophysiology of atopic dermatitis involving dysfunction of both innate and adaptive immune-responses as well as an impaired skin barrier function. As a consequence several novel strategies for the treatment of AD have been developed and others even more promising ones are in sight. These approaches include novel drugs, small peptides and "biologics" such as cytokines, humanized antibodies, fusion proteins, and receptor (ant-) agonists. Among these, calcineurin inhibitors and some "biologics" appear to be the most promising compounds as of yet. Accordingly, novel topical non-steroidal anti-inflammatory agents such as atopiclair, tacrolimus, or pimecrolimus or are considered to be safe and highly effective in particular when they are used in early stages of the disease in a proactive approach. Selective glucocorticoid receptor agonists are a novel class of effective and more safe agents which are currently being investigated in early clinical studies. The emerging better understanding of pathomechanism underlying AD will lead to the identification of key-targets which ultimately will allow for the development of newer, safer and more effective compounds.

Medical Dermatology Update 1

Alpha melanocyte stimulating hormone: A major component of the skin immune system with a therapeutic potential

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Several components of the neuroendocrine system such as neuropeptides and hormones have been recognized to exert cytokine like effects via regulating innate as well as adaptive immunity. Among these neuromediators α-melanocyte-stimulating hormone (αMSH) derived from the proopiomelanocortin was found to exhibit marked immunoregulating and anti-inflammatory activities. The effects of αMSH are mediated via direct effects on cells of the immune system as well as indirectly via affecting the function of resident non-immune cells. In order αMSH can exert these effects the expression of specific melanocortin receptors (MC-R) in particular MC-1R on both immunocompetent as well as non-immune cells is required. However, there is increasing evidence that αMSH can also penetrate independently of the expression of specific receptors in the cell and display its activity. αMSH affects several pathways implicated in regulation of inflammatory responses such as NF-κB activation, expression of adhesion molecules and chemokine receptors, production of proinflammatory cytokines and other mediators. Thus αMSH may modulate inflammatory cell proliferation, activity, and migration. Moreover, αMSH prevents the maturation of dendritic cells (DC) and thereby triggers the generation of a subset of regulatory T-cells. The anti-inflammatory and immunomodulatory effects of αMSH have been confirmed by means of animal models of inflammation such as irritant and allergic contact dermatitis, cutaneous vasculitis, psoriasis, inflammatory bowel disease as well as rheumatoid arthritis. Whereas the melanocyte stimulating activity of αMSH requires binding of the core tetrapeptide to MC-1R, there is accumulating evidence that the anti-inflammatory activities of αMSH can be attributed to its C-terminal tripeptide KPV and do not depend on the expression of a functional MC-1R. K(D)PT, a derivative of KPV corresponding to the amino acid 193–195 of IL-1β, is currently emerging as another tripeptide with potent anti-inflammatory effects. The anti-inflammatory potential together with the favourable physiochemical properties most likely will allow these agents to be developed for the treatment of inflammatory inflammatory skin, joint, and bowel diseases.

Australian psoriasis treatment goals project

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Introduction: The high incidence of comorbidities in patient with psoriasis, the significant impact on quality of life and patient dissatisfaction with treatment, lead a Euro-

pean group to develop a consensus position on psoriasis treatment guidelines[1]. It has become evident that there is a need for similar treatment goals in Australia. The aim of this project was to develop Australian treatment goals for psoriasis that reflect local treatment paradigms and take into account the local prescribing environment.

Method: The project was initiated by the Skin and Cancer Foundation Victoria. A panel of twelve representatives was drawn broadly from across Australia, and consisted of dermatologists, a rheumatologist, a dermatology nurse and a GP/dermatology trainee. The group met by teleconference on 3 occasions between September and December 2011. The panel undertook a literature review and critically examined available evidence based treatment goals. A questionnaire relating to psoriasis assessment and specific treatment outcomes was developed. By consensus, recommended treatment goals for psoriasis patients in Australia were determined.

Results: The panel agreed by consensus on a paradigm of recommended psoriasis treatment goals for the Australian environment. These largely concurred with the European treatment goals. There was recognition that in addition to PASI assessment, quality of life assessment was highly relevant in determining psoriasis severity and treatment outcome. The results of the project and a flow chart for psoriasis management based on outcome will be presented.

Conclusions: There is a need to identify and articulate treatment goals for psoriasis. Assessment of psoriasis severity requires both physical scoring (PASI) and consideration of quality of life measures (DLQI). Identification of treatment goals will guide clinicians in treatment decision making, enhance availability and appropriate use of therapies and increase patient satisfaction with there care.

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Cases which taught me something

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Despite extensive training and ongoing experience, cases often appear which confer new diagnostic or therapeutic information or force the practitioner to consider diagnoses which are uncommon. A series of cases relating to cutaneous infectious disease are presented wherein a lesson was learned by the speaker. Examples include: the rare manifestation of vegetative herpes in the immunocompromised, the development of Monkeypox acquired by an overseas traveller, the ability if infections to closely emulate inflammatory disorders (such as tinea imitating SCLE), the wide variety and non-specificity of deep fungal infection morphology, the ability of algae to cause skin lesions in the immunosuppressed patient, and the potential for hypersensitivity reactions against ectoparasites. Pearls to be learned in recent medical literature include: the use of liquid nitrogen cryoanesthesia for relief of post-herpetic neuralgia, the increased risk of stroke which accompanies herpes zoster ophthalmicus, and the potential to induce remission of orolabial herpes simplex outbreaks by use of occlusive imiquimod for three weeks during an attack. Finally: just a reminder that, although we possess improved treatments, HIV infection remains a serious global threat.

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Medical Dermatology Update 2

UK clinical dermatology in 2012 – Living/surviving in the new world

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Clinical dermatological practice evolves in whichever healthcare community we work but perhaps the last few years have seen a greater 'sea change' than most.

In the UK there has been a great political push to move dermatology into the community and this presentation will highlight some of the consequences 'foreseen and unforseen' for dermatologists, their patients and the commissioners of services.

UK national guidance has tried to concentrate cancer management in the hands of a few specific teams. This was accepted without too much angst by most specialties where this related to hospital specialist teams until the changes reached dermatology, the only specialty where GPs felt that they were being excluded form cancer management. The heat generated by this topic may not have triggered global warming but it will not have reduced the problem!

The economic climate impacts on healthcare wherever we work and the presentation will discuss multi disciplinary work streams facilitated by the NHS Confederation to address how clinicians might save money without affecting quality of care for their patients.

Finally, our current 'Coalition Government' pushes through its NHS reforms despite much medical opposition. This presentation will give some idea of the ramifications this is

having on the provision on dermatological practice and 'choices' for patients.

Anticoagulants and antibiotics in dermatologic surgery – When to stop, when to start?

P. Artemi
Strathfield, New South Wales, Australia

The number of patients undergoing Dermatologic surgery who are taking anticoagulant or antiplatelet therapy has progressively increased over the past 20 years. It is estimated that approximately 25% of patients undergoing cutaneous surgery are taking acetysalicylic acid, 10% Clopidogrel or Ticlopidine and 4% Warfarin.

The decision to suspend antiplatelet or anticoagulant therapy rarely depends on the prescribing physician, but rather is taken by the Dermatologist on the basis, usually, of personal experience rather than scientific evidence. The Dermatologist is seldom aware of the patient's actual level of thromboembolic risk.

There are no randomised double-blind studies that have assessed the risk of peri-operative bleeding.

This presentation will review the available literature in this area and also the peri-operative management of anticoagulant and antiplatelet therapy. The complications associated with suspending therapy will also be reviewed. Dabigatran, a recently introduced direct thrombin inhibitor that promises to dramatically reduce the number of patients taking Warfarin, will also be a topic of this

Genital emergencies

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Dermatologists may be called upon to make critical diagnoses of disease states occurring on genital skin. Failure to make a timely diagnosis may lead to a delay in instituting appropriate therapy. In turn, the latter may lead to morbidity and even mortality. One such example is infection of genital skin by a member of the normal human oral flora (Eikenella corrodens) following accidental or deliberate genital bite wounds. Another true emergency is the polymicrobial synergistic necrotizing fasciitis of genital skin known as Fournier's Gangrene. Dry eschar formation may be due to calciphylaxis or to thromboembolic events.

Penile strangulation occurs when an inanimate object (such as a ring) gets "stuck" at the base of the penis, leading to sequential occlusion of the venous, lymphatic and arterial channels. Penile strangulation may lead to death due to ascending infection in the GU tract and, ultimately, to sepsis. While all are relatively rare, the appearance of one or more hard nodules on genital skin may herald the onset of sarcoma, lymphoma or metastases. These generally carry a poor prognosis and require urgent intervention.

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Memorable cases from Graz

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Research Unit Dermatopathology, Department of Dermatology, Medical University of Graz, Austria

In this lecture a series of unusual cases that deviate from the conventional presentation of dermatologic disorders will be presented. These cases have been the source of extensive studies in order to reach a final diagnosis and to treat the patients properly. Knowledge of such cases is important in order to expand the experience and knowledge of dermatologists, both in out-patient and in in-patient settings.

Laser Symposium

Treatment of rosacea with a variable long-pulse 1064-nm Nd:YAG laser. A seven-year experience

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Background: Rosacea is a progressive skin disorder that frequently causes social discomfort. Curative medical treatments are currently unavailable. Being a multifactor disorder, the presence of erythema and/or telangiectasia is a constant event in rosacea patients, and might be a needed pathological event.

Objective: To investigate the safety and efficacy of a variable long-pulse 1064-nm Nd:YAG laser (Coolglide Vantage, Cutera, Inc., Brisbane, CA) device for the treatment of erythema, telangiectasia, flushing, and inflammatory lesions associated with rosacea.

Methods: 89 patients with rosacea were treated and followed for at least six months after finishing the treatment. Efficacy and safety were evaluated by clinical observation,

before and after treatment photography assessment, and subjectively by patients.

Results: Improvement in all studied signs was observed in more than 80% of the cases, and was maintained through the follow-up period. However the reduced incidence of flare-ups of inflammatory lesions and flushing as well as the reduction of telangiectasia on nearly all patients during the 7-year study period were especially remarkable. Moderate and transient swelling and occasional and local areas of purpura were observed in less than 10% of the patients. Burns and subsequent scarring occurred in only 1. Efficacy increased and adverse effects decreased in frequency as the authors gained experience.

Conclusion: The variable long-pulsed Nd:YAG laser is a safe and effective treatment for rosacea and it's clinical signs. Treatment parameters and clinical outcomes can be optimized by experience and strict epidermal cooling protocols.

Combination of IPL, ablative non fractional and ablative fractional in single session-treatment protocols for photorejuvenation or acne scars

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Introduction: We present a new modality of facial treatment program based on the combination of 4 light sources (two IPL systems, a fractional YSGG and a non fractional YSGG laser) applied sequentially on the same treatment session, to correct aging signs or acne scars.

Material and methods: Patients with photoaging and acne scars were included in this studuy. Standardized photographs were taken to assess skin pigmentation (actinic lentigines and non specific actinic pigmentation), presence of telangiectasia, skin textural changes (pore size, elastosis, acne scars) and lower face laxity. Wrinkle types (Fitzpatricks scale) were assessed through clinical evaluation.

Two IPL systems with cut off filters in the 520–550 nm ranges were selected for pigmented or vascular lesions. A fractional 2790 nm YSGG laser was applied on areas of severe elastosis or Fitzpatricks type 2–3 wrinkles and a full face pass with a non-fractional 2790 nm YSGG was performed to improve textural changes. All four systems were used sequentially on the same treatment session. After 4 weeks a second treatment was offered to those patients with persistent actinic damage or acne scars.

Patients were evaluated at 1, 2 and 5 days after the procedure to establish recovery time, social downtime, and clinical evolution. Clinical pictures and wrinkle assessment were repeated at 4, 12 and 24 weeks after the treatment and compared with initial data by 2 independent observers. Patient satisfaction was assessed 6 months after the procedure and the time between start and achievement of final results was evaluated.

Results: 34 patients with actinic damage and 9 with acne scars were included in this study. 25 of 34 patients with actinic damage and 5 of 9 with acne scars were treated with all the 4 light sources. The remaining patients did not receive the fractional procedure. An average downtime of 5.8 days was referred by the patients, with transient hyperpigmentation in 3 patients and erythema in 6 patients as the main secondary reaction. Moderate to high improvement on all signs of aging were referred by clinical and photographical assessment in 28/34 patients with photoaging and in 8/9 patients with acne scars. No significant improvement was observed in 2 patients with photoaging and 1 patient with acne scars. 93% of the patients referred to be satisfied or very satisfied (40/43). A mean of 7.3 weeks and 12.5 weeks were needed to achieve final results in photaging and acne scars respectively.

Discussion: The combination of different light sources that target different cromophores and depths in the same treatment session permits us to reduce the number of total treatments, the total downtime and the time for final results optimizing the results with no apparent increase in the incidence and severity of secondary reactions.

Fraxel® Restore DUAL 1550/1927 laser: The good, the bad and the ugly

M. Hunt
Inner Sydney Dermatology, Rhodes, New South Wales, Australia

The Fraxel® Restore DUAL laser system has been engineered to treat a wide variety of skin conditions ranging from acne and surgical scarring, to wrinkles and pigmentary dyschromia. In addition to the original, deeper penetrating Erbium fibre laser (1550 nm) a more superficial Thullium fibre laser (1927 nm) can also be selected. These wavelengths can be used alone or in combination. In this presentation I will outline my past 3 years clinical experience with the Fraxel® DUAL laser discussing the pros, cons and complications, with supporting clinical cases.

Can the effects of laser treatment of port wine stains be extended even after the exposure has ended?

J.S. Nelson
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Port wine stain (PWS) is a vascular malformation of human skin. Since two thirds of these malformations occur on the

face, PWS is a clinically significant problem. Presently, all patients are treated using the pulsed dye laser (PDL). However, PWS response remains unpredictable with less than 10% of patients achieving complete fading of their PWS after PDL. Moreover, PWS can recur after laser therapy due to reformation and reperfusion of blood vessels. Inadequate PWS therapeutic outcome is a clinically significant problem that requires a solution.

To date, most researchers seeking to improve PWS laser therapeutic outcome have approached the problem from an engineering and tissue optics perspective. Although the delivery and photothermal interaction of light with subsurface targets has been reasonably well characterized, the wound healing response of human skin to laser induced photothermolysis remains incompletely understood. The perplexing clinical results achieved after some PWS laser therapies raise the following question: can the wound healing response of human skin after laser therapy be modulated? More intriguing, can the effects of laser exposure be extended beyond the immediate light-target interaction?

This presentation will discuss the use of lasers and agents designed to modify the skin's normal wound healing response after light exposure. At the conclusion of this plenary lecture, participants should: 1) understand the paradoxical wound healing response of PWS skin after pulsed laser exposure; and 2) be aware of the potential use of combined treatments to modify the skin's wound healing response to enhance PWS therapeutic outcome.

Registrars' Teaching Session

Unusual ulcers

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Whilst much of dermatology practice is mundane and relates to perhaps 10 of the 2000 plus dermatological diseases, rarer conditions provide the most interesting and challenging part of our working week.

This presentation will focus on the presentation, diagnosis and management of some of the rarer causes of skin ulceration which we might come across in our working lives along with some 'take home messages' relating to this disease area from 20 years as a consultant.

Unusual clinicopathological presentations of common dermatoses

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Management of patients with cutaneous disorders depends primarily on accurate diagnosis. Although in most instances clinical presentation and histopathologic features allow to classify cases precisely, sometimes clinical and/or histopathologic features deviate from the conventional ("textbook") presentation, thus representing diagnostic pitfalls. "Unconventional" presentations may be the source of serious problems for what concerns proper treatment of patients, and may also be the reason for unnecessary investigations. In this lecture a group of common or less common skin disorders will be presented, with emphasis on atypical clinical presentations that may be the source of diagnostic and therapeutic problems.

Cutera Sponsored Breakfast: Nd:YAG Laser for Vascular Indications

Nd:YAG Laser for vascular indications

A. Campo Voegeli
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Introduction: The technical improvements of the long pulsed Nd:YAG lasers in the last decade has made possible to face the treatment of different vascular conditions that were not treatable before. It has also permitted to achieve better results in the management of some of the previously treated vascular conditions. With appropriate protocols high efficacy and safety rates are now a real fact.

Background: The high penetration (6–8 mm) of the 1064 nm wavelength makes this lasers able to reach all visible vascular lesions. The problems in safety and efficacy associated to the technical design of the first equipments have been solved in the last decade. A control of the penetration through spot size changes, multiple pulse durations to adjust thermal damage to vessel size, the square-shaped pulses that relate to an homogeneous deliverance of the energy, the auto-calibration that ensures the output parameters and the improvement in the cooling systems contribute to a high rate of efficacy and safety.

Material and methods: We retrospectively analyze our 8 years of experience using a 1064 nm variable long pulsed Nd:YAG laser in the treatment of vascular conditions and compare our results with those presented in the literature using the same or other wavelengths. Clinical files and pictures were used to assess results. Some of the presented results were obtained in a prospective clinical study (rosacea).

Patients are classified according to diagnosis or type of vascular lesions, starting from the most superficial to the most deep ones.

Results: Facial telangiectasia and rosacea: 210 patients with facial vascular disorders were treated. The 3 or 5 mm spot size, 8–30 ms pulse durations and 105–140 J/cm^2 were

used for visible telangiectasia and the 5 mm, 0.3 ms, 16 J/cm^2 for facial redness. A mean 0f 2.87 treatments were needed to achieve complete control of flushing in 88% and of flair ups of papules and pustules in 86% of symptomatic rosacea patients. A clearance of more than 75% of visible vessels was achieved in more than 91% of them.

Poikiloderma of Civatte: similar settings but with higher fluences (115–155 J/cm^2) were used in 16 patients. Clearance of more than 75% of vessels and redness were achieved in 87% of the cases.

Vascular tumors: 32 venous lakes, 27 childhood hemangiomas and 55 patients with cherry hemangiomas were treated. The 5 or 7 mm spot sizes, 15 to 60 ms and 65 to 150 J/cm^2 were used. A complete resolution of 100% of venous lakes and cherry hemangiomas and of 81% of childhood hemangiomas was accomplished after a mean of 1.8 treatments.

Vascular malformations: thick venous malformations (n = 4), the nodular component of capillary and venous malformations (n = 5) and superficial capillary malformations (n = 5) were treated with the 5 or 7 mm spot size, 5 to 60 ms pulse duration and 65 to 135 J/cm^2. Complete resolution of the nodular or tuberous lesions and partial clearance of the superficial component was observed in all the patients.

Leg veins: 89 patients with visible leg veins were treated after an eco-doppler ultrasonography that confirmed the absence of venous insufficiency. 7 mm, 35 to 60 ms, and 135 to 160 J/cm^2, were used for reticular veins; 5 mm, 8–25 ms, 160 to 210 J/cm^2, for superficial venules and telangiectasia; and 5 mm, 5–10 ms, 95–120 J/cm^2 for superficial matting. A mean of 3.1 treatments performed every 2 months were required to clear a 75–95% of all the vessels.

Secondary reactions to the treatment with Nd:YAG in all these indications included redness (100%), transient facial edema (11%), persistent pain (2% face, 2% vascular tumors of malformations, 3% leg veins), bruising (face 7%, 33% leg veins), blisters (1%), transient hyperpigmentation (35% leg veins), scarring (< 1%) and atrophic skin areas (35% hemangioimas).

Discussion: Similar results were obtained with the variable long pulsed Nd:YAG laser compared to the traditionally used systems (Pulsed Dye, KTP, IPL) in the treatment of visible facial telangiectasia. However less treatment sessions were needed with the Nd:YAG lasers and thicker vessels were targeted. In rosacea, improvement in flushing and inflammatory flair-ups which have not responded to traditional wavelengths were constantly achieved with the 1064 nm Nd:YAG laser. Thick vascular tumors (hemangiomas, venous lakes, venous malformations) that are not treatable with the low penetrating wavelengths were suitable for this deep penetrating light source. All types of visible leg veins responded when pretreatment studies confirmed absence of venous insufficiency. A low incidence of generally transient secondary effects was described.

Conclusion: The new variable long pulsed Nd:YAG lasers permit us to treat a very wide range of vascular disorders. From the superficial to the very deep vessels can be targeted. A right parameter selection (based on experience) and strict cooling and pre-treatment protocols help to decrease the incidence and severity of secondary effects.

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Paediatric Dermatology Update

New directions in paediatric dermatology: Sirolimus

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Sirolimus, also known as rapamycin, is currently an approved immunosuppressant for patients post renal transplantation and is used to coat drug eluting coronary stents to reduce the risk of re-thrombosis. It acts as an inhibitor of mTOR, the mammalian target of rapamycin, a central controller of cell growth and proliferation. The potential applications for this medication in dermatology and related specialties are rapidly expanding. Administered orally, it can improve many of the systemic complications of tuberous sclerosis. Topical application can dramatically improve facial angiofibromas in these patients, particularly when started early in childhood. Other exciting uses include the management of complex lympho- venous vascular malformations, Kaposiform haemangioendothelioma with Kasabach-Merritt syndrome, laser resistant port wine stains and use in PTEN hamartomatumour syndromes.

A comparative study of childhood psoriasis and atopic dermatitis and greater understanding of the overlap condition, psoriasis-dermatitis

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Introduction: Psoriasis (Pso) in children may be confused clinically with atopic dermatitis (AD) and may co-exist with it. The aim of this study was to determine historical and clinical features which are different in paediatric Pso and AD and to describe children who have features of both: psoriasis-dermatitis overlap (PD).

Methods: Children with features of psoriasis or eczema or both attending paediatric outpatients and private rooms were evaluated. Data were collected from 170 consecutive children aged less than 12 years between July 2011 and November 2011. Participants were classified by a described criteria as having Pso (N = 64), AD (N = 62) or PD (N = 44).

Results: Only 9.4% of children with Pso were correctly diagnosed by the referring doctor. Children with Pso as opposed to AD were more likely to have had a history of scaly scalp and nappy rash in infancy, a family history of psoriasis, current scalp and periauricular rashes, defined, patchy plaque morphology and papulosquamous rashes not typical of adult psoriasis on extensor elbows and knees. Children with PD had features of both but presented most often as typical paediatric psoriasis combined with flexural eczema. Children with Pso and PD responded well to specific treatment strategies for psoriasis, including potent topical corticosteroids (TCS), calcipotriol and phototherapy. Both Pso and PD tended to require more potent TCS than AD to achieve disease suppression.

Conclusion: We found that Pso and PD in children both differ clinically from AD and have identified historical and clinical features that characterize childhood Pso.

Update on food allergy for dermatologists

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Food allergies affect quality of life, can be fatal and are increasing in prevalence.[1] "Food allergy" can be defined as "an adverse health effect arising from a specific immune response that occurs reproducibly on exposure to a given food".[2]

Innate and adaptive immunity contribute to the development of food allergies, categorized into IgE-mediated, non-IgE mediated and cell mediated. Atopic dermatitis is a mixed IgE and cell-mediated reaction, with debate surrounding its relationship with food allergies. Traditional thinking stipulates that allergenic foods exacerbate atopic dermatitis, and avoidance relieves symptoms. Nevertheless, new insights, including the "outside-inside" hypothesis suggest that atopic dermatitis may actually be the primary insult, providing a defective epidermal barrier and weakening innate immunity.

Over the last decade, dietary trends have delayed the introduction of potentially allergenic foods, such as cow's milk, egg and peanut until a child is older, allowing the gastrointestinal tract to mature. Nevertheless, recent evidence suggests that predisposition to food allergies is related both to genetic predisposition and the timing of oral tolerance. Studies regarding the incidence of food allergy in different populations suggest that early exposure to potentially allergenic foods may actually be protective, rather than detrimental to the development of food allergies, contradicting previous advice, which may have contributed to the current epidemic.

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Concluding Plenary Session

The 'travelling' dermatologist – From visas to viruses

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World travel has brought great benefits to mankind but also brings with it associated problems.

The first part of this presentation will focus on the changes which the European Economic Community has inflicted on the employment regulations which now apply to foreign medical graduates wanting to work in the UK. These changes have had a significant effect on the ability of Australian trainees to come to the UK such that the Australasian College has had to make significant changes to it's systems to enable these to continue. The presentation will also address the hurdles which are likely to frustrate all but the most committed 'established' consultant wanting to work in the UK.

The second part of the presentation will focus on some clinical conditions with a dermatological flavour which increases in travel may bring to the practicing dermatologist and his or her patient.

Poster Presentations

Predictive value of skin histology in chronic graft versus host disease

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Background: Chronic Graft vs. Host Disease (cGVHD) is a common and often fatal complication following bone marrow transplantation (BMT). Past studies, in animal models, implicate the persistence of host Langerhans cells (LCs) in the development of cGVHD[2]. Our objective was to ask if persistence of host LCs could be predictive of cGVHD in a cohort of sex-mismatched allogenic BMT recipients.

Methods: Skin biopsies of sex-mismatched allogenic BMT recipients were taken 100 days post-transplant. Prospective follow-up information was collected regarding the occurrence of cGVHD. CD1a staining and X/Y chromosome in-situ hybridization were performed to identify LCs and their origin (host or donor).

Results: From 2005 to 2009, 124 patients received sex-mismatched allogenic BMT. We excluded 59 patients who developed acute GVHD and 5 that were lost to follow up before the 100 day biopsy date. We established 23 cases with cutaneous cGVHD to be compared to 37 controls without any cGVHD.

Preliminary data on 4 cGVHD cases vs. 4 controls that never developed GVHD were compared. The mean number of CD1a+ LCs/3 mm biopsy section was 11.2 ± 3 vs. 45.2 ± 9 ($p = 0.02$, Mann-Whitney U test). FISH was allowed in 68% of LCs to determine their origin. At 100 days, 45% of LCs were host derived. Patients who developed cGVHD had elevated levels of host derived LCs although the difference did not reach significance ($p = 0.4$).

Conclusion: Skin biopsies at 100 days can indicate the risk of developing cGVHD. However, further studies on our larger patient sample are needed to clarify this risk.

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Subungual myxoid cyst: A cause of unilateral pincer nail deformity

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The term pincer nail describes a nail deformity characterised by transverse over-curvature of the nail plate. Pincer nail may be hereditary or acquired. Acquired deformities are generally asymmetrical and have rarely been reported to be associated with tumours of the nail apparatus such as myxoid cyst[1,2].

We describe a case of a 55 year old office worker presenting with unilateral pincer nail of the left thumb, which was later found to have an underlying myxoid cyst with associated radiological evidence of osteoarthritis.

High quality clinical and radiological images and a literature review of the topic will be included in the poster presentation.

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Systemic retinoid therapy for chemoprevention of non-melanoma skin cancer: A case series

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Introduction: BRAF inhibitors (BRAFi) will soon become the first line therapy for BRAF mutant stage IV metastatic melanoma. These agents target a BRAF kinase mutation found in 50% of melanomas called V600E, which leads to activation of the MAPK pathway[1,2]. Currently there are 2 BRAFis, Vemurafenib (Roche) that has recently been approved by the FDA and GSK2118436 (GlaxoSmithKline), which is currently in phase 3 clinical trials. The main drawback of these agents is the development of cutaneous squamous cell carcinomas (CuSCC).

Methods: Patients enrolled in BRAFi clinical trials at Westmead Hospital, Sydney, who developed large numbers of hyperkeratotic papules (verrucal keratosis & CuSCC) (≥20) were offered treatment with acitretin. Baseline number of lesions was noted prior to its commencement and again at each subsequent visit. Patients were started at 10 mg daily and titrated to a maximum dose of 25 mg daily depending on their response.

Results: Five patients on GSK2118436 and 1 patient on Vemurafenib commenced acitretin. All six noted a reduction in the number and size of lesions up to one month after commencing the treatment. One patient went from developing up to 9 new lesions each visit to no lesions 2 months post acitretin. A second patient went from having an uncountable number of lesions, to no new lesions after only 3 weeks of taking acitretin.

Discussion: The use of acitretin as a chemopreventative agent for the development of benign hyperkeratotic lesions and CuSCC triggered by BRAFi's is still in the preliminary stage. It has been used previously in immunosuppressed patients who have received a solid organ transplant and have been shown to reduce the incidence of non-melanoma skin cancer[3,4]. In this case series, a significant reduction in benign and malignant keratinocytic lesions was noted on commencement of acitretin. This led to a reduction in the number of biopsies and excisions required and an improvement in patients' anxiety and quality of life.

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Acneiform eruptions in patients taking MEK Inhibitors: A case series

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Introduction: MEK inhibitors (MEKi) have been developed that target the mitogen activated protein kinase (MAPK) pathway, which is hyperactive in 50–90% of metastatic melanoma. A number of MEKi have been developed and while preliminary studies have shown great promise, the main side effects are an acneiform eruption, asthenia, fatigue, diarrhea, nausea and vomiting[1–5].

Methods: A retrospective analysis of patients medical records was carried out on all patients enrolled in the MEKi clinical trials at Westmead Hospital, Sydney. The development of acne-like lesions was noted and where available photographs obtained. All non-specific "rashes" were excluded.

Results: Thirteen patients were enrolled in MEKi clinical trials. 10 patients developed acneiform eruptions while on trial. The mean time to onset was 18 days. Eight people were treated with doxycycline, with improvement of the acne induced lesions. Once present, it remained until cessation of the drug.

Twenty three patients were enrolled in combined BRAFi and MEKi, and only 1 patient developed acne during the treatment. This patient was on therapy for 8 weeks, with no cutaneous side effects. Due to an adverse event resulting in pyrexia and rigors, both BRAFi and MEKi were ceased. Five days later, the patient developed a diffuse acneiform rash, on the upper limbs, trunk and face similar to that seen in the patients taking MEKi alone. A 5 day course of cephalexin had no effect. On day 10, the combined BRAFi and MEKi medication was recommenced and 14 days later the acneiform eruption had resolved.

Discussion: Acneiform rash is the most frequent side effect of MEKi's occurring in 77% of our study population. Once present, doxycycline can control the symptoms but continuous treatment is required until the active agent is ceased. Acneiform eruptions have also been reported with the use of epidermal growth factors inhibitors, such as sorafenib, suggesting that inhibition of the MAPK pathway plays a significant role in the etiology of acne[6]. However, we have not found acneiform eruptions with the use of the combination BRAF/MEK inhibitor, raising the theory that the effect

of BRAFi on wild type BRAF keratinocytes blocks the effect of the MEKi.

The development of an acneiform reaction in a single patient on a combination BRAF and MEK inhibitor may be explained by the longer half live of the MEKi.

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Recalcitrant and recurrent acne: New applications of photodynamic therapy treatments

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Introduction: Recurrent and recalcitrant acne is a growing challenge for patients, general practitioners and specialists alike. Literature indicates multiple limitations and complications of conventional treatments, including growing antibiotic resistance and systemic issues related to long term drug therapies.

Methods: With the advent of new technologies, acne PDT has emerged as an efficacious, quick onset of action and safe treatment modality for moderate to severe acne. The added benefit of acne PDT is decreased antibiotic resistance along with no systemic side effects.

Results: PDT acne is not an exact science and parameters like pre treatment protocols, photosynthesisers, incubation and illumination times, light source, patient selection, skin types and pain control will all be discussed during the presentation.

Conclusions: Photodynamic therapy offers significant improvement for cystic and nodular presentation. PDT is likely to increase as part of the medical management of acne. In terms of future research, results suggest that a protocol based system is desirable to establish a benchmark and ensure a quality standard of care. From a patient satisfaction perspective, addressing pain with PDT is essential for effective treatment and patient/ physician satisfaction.

Use of biologic agents for psoriasis – Experience in the South-East Queensland population

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Biologic agents have been subsidised on the pharmaceutical benefits scheme since 2003. We present findings of a review of our experience with psoriasis patients being treated with biologic agents over the past five years. Data was collected from both a public teaching hospital dermatology department and a private dermatology clinic both in South Brisbane. Together these represent a large proportion of psoriasis patients treated with biologic agents in Queensland. Ongoing monitoring and analysis allows reasons for non-compliance or non-attendance to be analysed and positive interventions made.

Dermographic urticaria presenting as anaphylaxis: Report of two cases

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Dermographic urticaria is characterised by an exaggerated triple response, such that firm stroking of the skin results in a normal or increased wheal and flare reaction, accompanied by disproportionately severe itch. Although previously named factitious urticaria, symptomatic dermographism appears to have an immunological basis, since it can be transferred when patients' IgE is injected into normal recipients.

Although dermographic urticaria is one of the more common physical urticarias, it is only very rarely associated with systemic symptoms, and has not previously been reported as a cause of anaphylaxis.

We report two cases of dermographic urticaria that presented as idiopathic anaphylaxis. In the first case, a well young man developed repeated episodes of anaphylaxis after using a 'power shower', requiring multiple hospital admissions and frequent use of an adrenalin auto-injector.

In the second case, an otherwise well middle-aged man developed severe scalp itch; scratching resulted in progressive extension and generalisation of the itch, with the development of linear wheals, uncontrolled scratching and then anaphylactic symptoms. He had several further episodes of milder generalised itch followed by linear wheals after scratching.

Both cases had normal full blood counts, complement C4 levels, mast cell tryptase, thyroid function and inflammatory markers. Both cases had a brisk dermographic response, but were negative to other relevant physical provocation tests, including for aquagenic urticaria in case one.

Both patients responded to high-dose antihistamine therapy and lifestyle modifications such as changing the shower water pressure.

These cases highlight the very rare but potentially life-threatening complications of dermographic urticaria.

Key facts in necrotizing fasciitis: Lesson from practice

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A 52 year old male presented to hospital with a 24 hour history of lower abdominal pain. On initial assessments, he was systemically unwell but with just minimal supra pubic erythema. Based on symptoms and observation readings, he was started on intravenous fluids and antibiotics with an impression of cellulitis. Progressive skin manifestations, a poor response to antibiotic treatment and signs of systemic involvement raised the possibility of necrotizing fasciitis. Surgical exploration and further pathology investigations confirmed the diagnosis.

Necrotising fasciitis is an uncommon but potentially lethal condition which can be difficult to diagnose at times. Patients are usually systemically unwell and can deteriorate within hours. A high index of suspicion and a low threshold to seek surgical attention ultimately may allow for earlier diagnosis and treatment of this condition. Aggressive surgical debridement and intravenous antibiotic therapy are the key points to treatment. Antibiotic therapy alone has mortality rate of about 100%.

Reactive angioendotheliomatosis associated with cryoglobulinaemia in a marathon runner

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This poster displays a case of a 65 year old marathon runner who presented with a twelve month history of symmetrical, erythematous to violaceous plaques distributed over the helices of the ears, the knees and the flanks. The lesions were painful, worse with cold weather, and progressed to ulceration.

Punch biopsy revealed vascular endothelial hyperplasia and an appearance consistent with reactive angioendotheliomatosis (RAE), a rare, benign disorder of the skin. Subsequent investigations resulted in the diagnosis of type I cryoglobulinaemia, a condition reported to be associated with RAE. The lesions resolved completely following treatment with thalidomide and lenalidomide.

This report discusses the presentation, histopathology findings, associations and treatment options for RAE, a rare but important condition.

Grover's disease secondarily infected with herpes simplex virus and ***Staphylococcus aureus***

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The case of a 73 year old man with Herpes Simplex and *Staphylococcus aureus* infection complicating established Grover's disease is presented. Whilst bacterial and herpetic infection has been published previously in other acantholytic diseases such as Darier's disease, only one publication to date shows herpes simplex infection in Grover's disease[1].

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Cigarette allergy an ethical challenge for dermatologists

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There have been a number of documented cases of Allergic contact dermatitis (ACD) associated with cigarette smoking. This represents a challenge for clinicians to identify the offending allergen. Cigarettes may contain a number of additives in addition to tobacco that can act as potential allergens. These include coca, menthol, licorice, colophony and formaldehyde in addition to cigarette paper, filter paper and the cigarette filters themselves.[1]

A case is presented of a 21 year old female with bilateral eczematous eruption on 2nd, 3rd fingers. The patient had instinctively switched smoking hands intermittently to relieve symptoms. In this case the patient was patch tested to the European standard battery that showed positive reactions to formaldehyde and formaldehyde releasing agent, quaternium 15. It is recommended by Glick et al that smokers presenting with ACD should be tested with the standard series of allergens as well as the listed potential cigarette additives and smoked/unsmoked cigarette components. In accordance with these recommendations testing for menthol and colophony was organised with the aid of the Contact Allergy Bank Australia. Licorice was not available. Smoked and unsmoked tobacco and filter paper were also tested.

Despite confirmatory testing, the patient has continually refused to quit smoking creating a dilemma regarding the future management and advice given about this problem.

Reference

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The QRME Tele-derm Project: Vertically integrated dermatology training

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This poster will outline the QRME Tele-derm project. In 2010 QRME introduced specific training for GP registrars in the use of dermoscopy and particularly the three-point checklist. In 2011, QRME won grant funding to further expand the program integrating practice-based learning, employing teledermatology. With the support of an Education Innovation Project grant from the Commonwealth Department of Health and Ageing, General Practice Education and Training (GPET) dermatoscopes and digital cameras were purchased for teaching practices. These practices involve medical students, PGPPP doctors, GP registrars and supervisors. The teledermatology portal employed has been provided as part of the ACRRM Telederm service.

Vertical integration of training is an education concept discussed in medical education literature[1]. This project represents a vertically integrated educational program involving rural GP teaching practices, a Dermatology registrar and a Dermatology consultant.

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Dermoscopy of melanoma associated with seborrheic keratosis

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Although Seborrheic keratosis (SK) is generally regarded as a benign tumour there are numerous reports of SK and malignancy. The exact incidence of melanoma associated with SK is unknown although it has been reported as between 0.3 and 0.66%[1].

Argenziano et al. have previously cautioned about the potential to miss melanoma when specific criteria for seborrheic keratosis, such as comedo like openings, are present[2]. Cassangrande et al. have presented an approach for dermoscopy of SK-like lesions in an attempt to reduce this risk[3]. This involves blocking out the lesion and actively scanning all quadrants for other features. This approach may reduce factors such as search satisfaction and confirmational bias. We present two cases of melanoma associated with SK with discussion of dermatoscopic features. The presented cases further illustrate the importance of clinical change as a trigger for further examination and also the danger in relying solely on dermoscopy for exclusion of melanoma.

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Lichen sclerosus et atrophicus in the red tattoo

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We report the case of a 38 year-old woman who developed lichen sclerosus et atrophicus in the red pigment of a tattoo. This large, multi-coloured tattoo on the back had been present for 2 years, and interestingly, the reaction involved only the red pigment. The patient also developed patches of lichen sclerosus et atrophicus on the legs where there were no tattoos. Koebnerisation of lichen sclerosus et atrophicus in a tattoo is a rare but known phenomenon. This is the first reported case of lichen sclerosus et atrophicus confined to the red pigment of a tattoo, with sparing of the other tattoo pigments.

Evaluation of a Fijian nurse dermatology workshop and train-the-trainers program

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Introduction: Endemic levels of skin diseases including scabies and impetigo are a major cause of morbidity in Fiji. There is a need for appropriate initiatives that are effective, sustainable and cost-efficient. A four-day train-the-trainers programme entitled 'The Nurses Dermatology Workshop' was held in Suva, Fiji. Workshop objectives were to enhance skills and knowledge of senior nurses from Fiji's twenty health divisions. Nurses were then given access to resources to enable them to conduct their own one-day workshops.

Aim: To evaluate the effectiveness of 'The Nurses Dermatology Workshop' on knowledge, skills and attitudes of the nurses involved.

Methods: Pre- and post-training testing as well as collection of clinic patient registers was undertaken. In addition, anonymous evaluation questionnaires of both the four-day and subsequent one-day workshops were conducted.

Data was recorded, and the quantitative component analysed using SPSS 20.0.

Result: There was an average individual score improvement of 24.72 (out of a possible 75 marks) in the senior nurses' knowledge tests. Attitudes towards the initial workshop design, organization and results were largely positive, particularly in regards to the clinical component. Overall score improvements were also made after the one-day workshop conducted by the nurses. Most one-day workshops were unable to provide a clinical component and time constraints were common.

Conclusion: The Nurses Dermatology Workshop train-the-trainers programme is a promising strategy to improve dermatology knowledge and skills in Fijian nurses and thereby, skin disease diagnosis and management. Further study is required to determine whether improved knowledge has successfully translated into enhanced patient care.

Chemoprevention of non melanoma skin cancer

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In Australia, non melanoma skin cancers (NMSC) are four times as common as all other cancers combined. Whilst sunscreens can help to reduce NMSC incidence, compliance with sunscreen use is often less than optimal. Especially in individuals at greatest skin cancer risk, additional measures are required to reduce NMSC development. Effective systemic chemopreventive strategies for NMSC have been sought with studies focussing on the efficacy of oral retinoids, antioxidants such as beta carotene and selenium, and more recently COX-2 inhibitors and ornithine decarboxylase inhibitors. Many primary studies have been unable to define the role of these treatments due to methodological limitations. We preformed a meta-analysis and systematic review of published RCTs to clarify the relationship between oral chemoprevention agents and the risk of NMSC in both immune competent and immuno-compromised individuals. A detailed literature search was undertaken with fifteen studies being identified. Six RCTs that were not of parallel design with placebo control and where results were not presented as total number of patients with the outcome of interest were excluded from the preliminary meta-analysis. Provisional results from our meta-analysis did not show a significant beneficial role for oral retinoids [Fixed effects OR 0.88 (95% CI 0.74–1.06), although there was a trend to benefit seen. No benefit was seen for all other chemoprevention oral agents [Fixed effects OR 1.16 (95% CI 1.05–1.29). The results of our meta-analysis and systematic review suggest that additional large, well-designed prospective trials are required to delineate the role of oral chemoprevention agents in reducing skin cancer incidence.

Dermatology and medical care in Bolivia: A personal account and review

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Bolivia is the poorest country in South America, and as such, medical resources are significantly limited. Voluntary general medical service in Bolivia during October 2011 presented the unique opportunity of diagnosing and treating patients with multiple ailments, and specific to my interest, dermatological concerns.

The spectrum of dermatological conditions seen included acne, pityriasis alba, vitiligo, infections (fungal, bacterial, scabies and Chagas) and cutaneous metastases. Due to Bolivia's high altitude, skin cancer rates were higher than the worldwide average, despite the majority of the population being of Fitzpatrick skin type III-V.

Chagas disease is prevalent in Bolivia, caused by *Trypanosoma cruzi* transmitted by a triatomine bug, also called "kissing bug". The initial skin manifestation often passes unnoticed, and patients miss the window of opportunity to receive the required anti-parasitic treatment before developing serious systemic consequences.

In summary, Bolivia is a wonderful destination to experience both cultural diversity and medical issues. Many medical conditions are commonly seen worldwide, but there are those specific to the region. Visiting Bolivia presented a unique and rewarding opportunity to assist in the healthcare of its people, and on a personal note, kindled a deep appreciation of the role of the medical practitioner in the wider community of the world.

Successful Infliximab therapy for hidradenitis suppurativa and pyoderma gangrenosum, complicated by development of palmo-plantar pustular psoriasis: Case report and literature review

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There is growing evidence for successful treatment of Hidradenitis Suppurativa (HS) and Pyoderma Gangrenosum(PG) with TNF alpha blockers, particularly Infliximab and Adalimumab. We report a fifty-year-old male patient with a 36 year history of HS and a four year history of PG, a relatively rare association. At the time of initial consultation, the conditions were only manageable with high doses of prednisone and minocycline, after having failed multiple immunosuppressive agents, as well as undergoing three surgical excisions for the HS. As a result, our patient developed steroid induced diabetes mellitus and hypertension. Thus in February 2011, we commenced infliximab (5 mg/kg) on compassionate grounds, and he experienced immediate improvement after the first infusion. Over the course of five months, we were able to wean off his prednisone and minocycline completely, and maintain excellent control of the HS and PG. Interestingly, the patient developed painful palmo-plantar pustular psoriasis about 4 weeks after the third infusion, which was managed topically with betamethasone diproprionate. Overall, our patient has had a significant improvement in his quality of life. He has achieved control of both inflammatory processes without the ongoing requirement for systemic prednisone, resulting in weight loss and continuing reduction in dose requirements for insulin and blood pressure medication.

Interstitial granulomatous dermatitis and parvovirus B19 Infection

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A 55 year old Caucasian man presented with a sudden onset painful erythematous rash on his face and scalp, which gradually spread to his neck, shoulders, extensor aspects of arms and dorsum of hands. The rash was initially accompanied by fatigue, fevers and night sweats, and a few days later the patient developed symmetrical polyarthralgia of the upper limbs.

Both serology and tissue culture were positive for Parvovirus B19 (IgM, IgG, and Parvovirus B19 DNA PCR). The patient had been on aspirin, trandopril and sertraline for 3–4 years, and on paracetamol and non-steroidal anti-inflammatories on an as needed basis for hip pain. He commenced atorvastatin 2 months prior to the onset of the rash.

Skin biopsy result was consistent with interstitial granulomatous dermatitis (IGD), with negative features for vasculitis and lupus erythematosus. Immunofluorescence was negative.

Cessation or substitution of medications, apart from sertraline, had minimal effect on the disease course. Therefore, it is plausible to link the acute Parvovirus B19 infection, which is commonly associated with polyarthritis, and his dermatological presentation of IGD. Weaning courses of prednisone, narrow band UVB phototherapy and doxycycline have resulted in gradual clinical improvement.

An acute Parvovirus B19 infection should be considered as a possible cause for IGD, particularly when accompanied by arthralgia and general systemic symptoms. Other causes of IGD should also be excluded, such as medications, autoimmune disease, systemic vasculitis and underlying haematological malignancy.

Erythema multiforme to topical imiquimod 5% cream

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A 59 year old female presented with a 4 days history of a widespread erythematous papular rash, lip swelling, glossodynia, dusky erythema and numbness of her fingertips and toes, and feeling systemically unwell. Topical imiquimod 5% cream was started for the treatment of 3 clinical superficial basal cell carcinoma's overlying her left upper scapula 3 weeks prior to her presentation. Two weeks after starting therapy she developed severe swelling and erythema at the site of application and a general feeling of malaise and had ceased treatment.

Biopsy of a targetoid lesion from her thigh showed a lichenoid inflammatory infiltrate with intraepidermal vesicle formation and spongiosis. Basal layer vacuolar damage and Civatte bodies were present, as well as epithelial necrosis. These findings were consistent with erythema multiforme.

She was managed conservatively with cessation of therapy and close monitoring, with resolution of her rash and symptoms over several days.

Imiquimod is an immunomodulator which acts through toll-like receptors 7 and 8. Its antitumoral and antiviral activity results from its capacity to stimulate both innate and acquired immunity. Most adverse effects are local reactions; erythema multiforme is a rare adverse drug reaction (AD- 2011-EN-17390–3).

Transplant dermatology: Database development and patient monitoring

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Introduction: Solid organ transplant patients receiving immunosuppressant medications are up to 65 times more likely to develop skin cancers, particularly squamous cell carcinomas, than non-transplant patients and have an increased rate of associated mortality.

Regular assessment in a specialist transplant dermatology clinic has been demonstrated as the gold standard for the management of this high risk group, enabling early detection and treatment of cutaneous malignancies.

Use of an effective database permits research into the causal links between risk factors and outcomes, crucial to optimising management of skin cancers and other cutaneous disorders in the transplant population.

Objectives: To describe our experiences in the development and implementation of a database for the specialist transplant dermatology clinic at the Royal Prince Alfred Hospital, one of the largest Australian transplant centres, as well as initial results.

Design: A Filemaker Pro© based transplant dermatology database was developed with subsections permitting entry of relevant visit details, including baseline and subsequent skin cancer histopathology on a patient body map, transplant and immunosuppressant history, other dermatological and medical history, and dermatology life quality index (DLQI) scores.

Clinic doctors assessing each patient complete a baseline data collection form for new referrals and a subsequent one thereafter. These source required information for the database. As of December 2011, data from 71 transplant patients had been recorded.

Conclusion: Well designed and effective databases are powerful epidemiological tools and permit optimisation of transplant patient dermatological care. We propose that they be implemented in all large dermatology centres which manage transplant patients.

Imaging of an atypical naevus spilus with in vivo confocal microscopy

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Introduction: A naevus spilus, or speckled lentiginous naevus (SLN), is characterised by darkly pigmented macules or papules on a background of light-brown pigmentation. It is usually present at birth as a "café-au-lait" macule, with widespread darker pigmented macules often developing years to decades later. The importance of close follow-up is underlined by case reports of melanoma developing within naevus spili.

Case summary: A 54 year old lady with no prior melanoma history presented with a pigmented lesion on her lateral thigh, present since birth. Clinical examination revealed a 4 × 5 cm café-au-lait macule with superimposed maculopapular speckles, consistent with naevus spilus. Dermoscopy showed a darker focus within the lesion though no classic melanoma features.

In vivo reflectance confocal microscopy demonstrated multiple atypical bright large cells with upward migration and a disarranged epidermis, consistent with melanoma-in-situ. The remainder of the lesion contained only monomorphous small bright cells organised around a regular papillae ring.

Histopathology of a targeted biopsy taken from the atypical area could not exclude melanoma-in-situ.

Conclusion: Malignant melanoma arising in a naevus spilus is a rare event. The café-au-lait macule is often present at birth and the darker pigmented speckles that develop in number and size over many years are challenging to monitor.

In vivo reflectance confocal microscopy is a well proven laser imaging technique for pigmented lesions, allowing non-invasive examination of the epidermis. We propose its use in identifying areas of dynamic change in clinically and dermoscopically equivocal lesions, thereby assisting in the early detection of melanoma arising in naevus spilus.

Observation of a five year high risk clinic for primary melanoma

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Introduction: While Australia has the highest worldwide melanoma incidence, certain subpopulations are at extreme risk and early melanoma diagnosis is crucial. Knowledge of the role of clinical imaging techniques in this group is somewhat limited.

Objective: To determine for extreme risk patients the natural history and role of total body photography (TBP) and sequential digital dermoscopy imaging (SDDI) in early primary melanoma detection.

Method: 312 patients at extreme melanoma risk were monitored six monthly after baseline TBP over a 5 year period. Inclusion criteria were ≥1 of: (1) CDKN2A or CDK4 mutation; (2) ≥3 first/second degree relatives with previous melanoma and a personal melanoma history; (3) Dysplastic Naevus Syndrome and a personal melanoma history; (4) History of ≥2 primary melanomas.

All patients were screened against TBP at each visit with SDDI short term (3 months) and long term (≥6 months) monitoring employed following established criteria and atypical lesions were excised.

Results: The median follow-up time was 3.5 years (IQR: 2.4–4.2 years). 79 primary melanomas were detected, 16 at baseline visit and 63 subsequently. Median Breslow thickness was 0.12 mm (IQR: in situ–0.60 mm). 38.1% were detected using TBP and 39.7% with SDDI. Five melanomas, including three desmoplastic melanomas, were >1 mm Breslow thickness. 142 BCCs and 64 SCCs were excised and the overall benign to malignant excision ratio was 1.4:1 and 4.2:1 for melanocytic lesions.

Conclusion: Monitoring extreme risk patients with TBP and SDDI assisted with the effective early diagnosis of primary melanoma. Hyper-vigilance for difficult to detect thick melanoma subtypes is crucial.

Melanoma detection in high risk patients: A case series

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Introduction: Australia has the highest worldwide incidence of cutaneous melanoma. Certain subpopulations are at extreme risk and early detection in this group is critical to reducing disease mortality.

Clinical imaging techniques permit early melanoma diagnosis and improved patient prognosis. Regular patient and doctor examination of total body photography (TBP) images enables identification of changing or new atypical skin lesions.

Sequential digital dermoscopy imaging (SDDI) additionally permits the capture and assessment of successive dermoscopic images over short term (average 3 months) or long term (≥6 months) intervals to assess for morphological change and permits detection of still featureless incipient melanomas[1].

Case series: A melanoma case series of extreme risk patients diagnosed with melanoma through SDDI monitoring is presented from a 312 patient cohort managed in the Sydney Melanoma Diagnostic Centre high risk melanoma clinic since 2006.

No classic dermoscopic features were present initially and only minimal changes were noted on SDDI monitoring. These included subtle lesion enlargement, regression and focal change, with the cases representing key diagnostic lessons from this extreme risk patient group.

Conclusion: Early melanoma diagnosis is crucial though can be challenged by the absence of classic diagnostic criteria. This case series reinforces the importance of the role

of TBP and SDDI in monitoring patients at extreme risk of melanoma.

Reference

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Leprosy in Australia: Where are we now?

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Introduction: Leprosy, caused by the bacterium *Mycobacterium leprae*, is a chronic infection of the skin and peripheral nerves. The disease is now rare in Australia and the majority of cases are notified in migrants from leprosy-endemic countries, with some locally-acquired cases in Indigenous communities.

The first cases of leprosy were recorded in Australia in the 1880s. By the 1950s the prevalence was 10% in some northern Australian indigenous communities. Subsequent active case finding and treatment significantly reduced the incidence of leprosy.

Current status: Between 2005 and 2009, 45 new cases of leprosy were recorded in Australia, with 11 in Indigenous patients. Annual leprosy notifications varied between 13 and 3. Currently there are no specific national goals for leprosy disease control in Australia.

Case report: A 27 year old aboriginal lady was diagnosed with leprosy after presenting with a six month history of non-healing ulcers on both feet associated with hypopigmented facial patches, right hand clawing, small hand muscle wasting and right ulnar nerve thickening.

Punch biopsies from hypopigmented patches and nerve filaments identified acid fast bacilli and skin smears were consistent with lepromatous leprosy.

Treatment was undertaken with rifampicin, clofazimine and moxifloxacin following WHO and local guidelines, though was challenged by poor patient compliance.

Conclusion: Although leprosy is now rare in Australia, symptoms can take more than 30 years to appear. Inclusion of leprosy as a differential diagnosis is therefore important in both immigrants from endemic countries and indigenous patients presenting with hypopigmented skin patches or non-healing ulcers.

Total body photography self-examination in patients at high risk of melanoma

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Introduction: Regular total body photography (TBP) examination of individuals at extreme melanoma risk leads to earlier melanoma detection, lower biopsy rates and a more efficient benign melanocytic naevus to melanoma excision ratio.

Patient self-examination using TBP is recommended in the current Australian melanoma guidelines[1]. Local studies have shown that up to 73% of patients detect their own melanoma recurrence, with a worldwide mean of 62%[1].

Objective: To evaluate the rate of TBP self-examination in patients at extreme risk of melanoma.

Methods: Patients attending the Sydney Melanoma Diagnostic Centre high risk melanoma clinic were asked at each three or six monthly consultation if they had TBP self-examined on at least one occasion since their previous attendance.

Results: Over a 12 month period from February 2011, 180 (71.7%) of 251 patients reported TBP self-examination on at least one occasion during the year and in between 262 (46.6%) of 562 consultations undertaken.

Conclusion: Most melanoma recurrences develop from new or changing lesions. Patient self-examination is therefore essential. Our results demonstrate that although 71.7% of patients reported TBP self-examination on at least one occasion during the 12 months, self-examination was only reported to have occurred prior to 46.6% of consultations. Regular education reinforcing the importance of TBP self-examination in this extreme risk group is therefore essential.

Reference

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Multi-disciplinary approach in the management of adult patients with epidermolysis bullosa

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Introduction/background: Epidermolysis bullosa (EB) is a rare genetic skin disorder characterized by blister formation due to minimal trauma. EB is known to be one of the most devastating chronic conditions as fragility is evident in the skin and mucous membranes, and other systemic complications also frequently develop. Paediatric EB patients often have a multidisciplinary team but when they reach adulthood, the severe recessive dystrophic and junctional EB patients should also be regularly evaluated with a multi-disciplinary approach primarily headed by a dermatologist.

Objectives: To provide an excellent and comprehensive transition and treatment plan for adult EB patients to enhance comfort and autonomy

Methods: The principal investigator has worked at and with various EB centres internationally and have adapted the system to establish the two centres in Sydney.

Results and conclusions: Medical and allied health teams work closely together to provide optimal health care and support to EB patients and their families. Patients with recessive dystrophic EB and junctional EB are reviewed every 3 months and dermatologists coordinate with the other multi-disciplinary teams, monitor for skin cancers and refer to plastic surgeons if necessary. An EB clinical nurse consultant provides proper wound care with appropriate dressings. Evaluation by haematology, infectious diseases, gastroenterology, endocrinology, cardiology, renal medicine and pain teams are organised as anaemia, chronic renal failure, osteoporosis, growth retardation, oesophageal strictures and cardiomyopathy are common complications that can lead to significant morbidity and mortality. yearly ophthalmology and dental reviews should be encouraged. Occupational therapists and physiotherapists optimize their daily living and dieticians ensure appropriate nutrition.

By providing a multidisciplinary team approach in managing adults with EB, we have been able to address the different systems affected by the disease, improve the quality of life of our patients while developing a professional relationship with other health professionals.

Absence of evidence is not evidence of absence

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Papular necrotic tuberculid (PNT) is commonly described on the extensor aspects of the arms, with the head, neck and trunk uncommon sites.

We describe the case of a 28 year old man who emigrated from Bangladesh and presented with multiple papulonecrotic lesions concentrated over his face, upper trunk and scalp. Although acneiform in appearance, his skin eruption failed to respond to traditional anti-acne treatments with his general practitioner.

Upon dermatological review the clinical appearance was suggestive of papular necrotic tuberculid despite its distribution and biopsies performed demonstrated necrotising granulomas suggestive of PNT. Clinical examination revealed multiple cervical and some axillary lymphadenopathy with CT chest confirming this. Tissue culture from skin and axillary nodes failed to demonstrate mycobacterium despite the presence of granulomatous inflammation. Serum ACE, Quantiferon gold and Mycobacterium PCR also returned as negative.

With a high degree of suspicion of PNT based on histological and clinical findings, despite no microbiological evidence of TB infection, TB therapy was instituted. Following initiation of TB therapy a significant improvement was observed.

This case emphasizes the need in Australia's current climate to remain sensitised to conditions normally seen only in developing countries. It also highlights the importance of clinical and histological findings in both making a diagnosis and choosing appropriate treatment, with 30–40% of PNT cases failing to identify mycobacterium TB on culture or PCR.

Psoriasis and HIV: A T-cell mediated skin disorder occurring in the setting of T-cell depletion

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Psoriasis is an auto-immune T-cell mediated condition that is seen commonly amongst the HIV infected population. Severe psoriasis has often been seen as the presenting feature of HIV infection and in this setting significant immune dysfunction is commonly observed. In addition, worsening psoriasis control is often associated with falling CD4 counts.

Psoriatic arthritis and sebo-psoriasis are more common in people with HIV infection, with sebo-psoriasis maximally affecting the flexures, anterior chest, paranasal and posterior auricular folds, as well as the scalp and beard area.

Traditional systemic treatment options for psoriasis are often immunosuppressive and can lead to severe complications associated with opportunistic infection including progressive multifocal leukoencephalopathy (PML). Treatment therefore poses a distinct therapeutic challenge, should be tailored to severity of disease and may involve initiation or optimization of anti-retroviral therapy. Paradoxically, exacerbations of psoriasis have been observed following antiretroviral initiation as part of the immune reconstitution inflammatory syndrome.

Generalised telangiectasia secondary to intravascular large B cell lymphoma

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A 72 year old Chinese woman presented with an unusual cutaneous manifestation of intravascular large B cell lymphoma. She was admitted to hospital after several months of malaise, poor appetite, fever and anaemia. Blood tests revealed a leucoerythroblastic reaction with thrombocytopaenia and liver synthetic dysfunction. She developed rapidly evolving large areas of irregular telangiectasia and venulectasia on the trunk and limbs. Imaging studies of the internal organs were unhelpful in establishing a cause for her illness and bone marrow examination revealed reactive hyperplasia only. She became increasingly unwell and died of hypovolaemic shock. Post-mortem histologic analysis revealed large atypical cells within the lumen of small and medium sized blood vessels of the dermis and subcutis, lungs and heart. There was also sinusoidal involvement in the liver, spleen and bone marrow. The immunoprofile of the abnormal cells was in keeping with a diagnosis of intravascular large B cell lymphoma.

Intravascular large B cell lymphoma is a rare subtype of cutaneous diffuse large B cell lymphoma and it is characterised by the presence of malignant cells in capillary lumina of multiple organs. At the time of diagnosis, disease is usually disseminated and a variety of presentations are possible including cutaneous plaques which may be erythematous or violaceous, cellulitis and ulcerated nodules. Systemic manifestations include fever, malaise, decreased performance status and neurological deterioration[1]. There is often diagnostic difficulty due to the lack of focal disease and repeated biopsies from affected organs are needed[2].

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Dermoscopic naevus characterisation in 82 melanoma patients in Queensland

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Following on from our preliminary work in 2010 documenting the naevus patterns in 34 high and 31 moderate/low melanoma risk people in Queensland, we now present the dermoscopic characteristics of naevi in 82 melanoma patients in Queensland.

The current study findings are consistent with those observed in the preliminary study, reinforcing that despite Queensland having the highest rate of melanoma globally, our naevi present similarly to those described internationally. In addition, we explored the total body naevus counts amongst five age bracket s and found mean totals that are associated with a very high melanoma risk, again findings similar to our preliminary work.

Continued research into patient phenotype and naevus characteristics in our Queensland population is essential and will further assist clinicians in being able to identify people at increased risk for melanoma.

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Quality of life in patients with cutaneous lymphoma

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Introduction: Cutaneous lymphoma refers to a group of neoplastic disorders that are characterized by clonal lymphocytic proliferation in the skin. It can have profound impact on patients' quality of life and psychological well-being. Health-related quality of life impairment have been noted in patients with cutaneous lymphoma.[1,2] Currently,

there is no published data concerning the quality of life in patients with cutaneous lymphoma in Australia. Our aim is to determine its level of impairment by using a skin-specific questionnaire (Skindex-16) and a psychological-specific questionnaire (DASS-21).

Method: The two questionnaires were mailed to 49 patients attending the Cutaneous Lymphoma Clinic at the Cancer Care unit, Westmead Hospital. 23 patients completed and returned the questionnaires, giving a response rate of 46.9%.

Results and discussion: There were 19 patients with mycosis fungoides, 2 with Sezary Syndrome, 1 with lymphomatoid papulosis and 1 with cutaneous B-cell lymphoma. 73.9% were males. Mean age of the patients were 61.5. The mean score for emotions domain of Skindex-16 were higher than the symptoms and functioning domains. This result, however, was not reflected in the DASS-21 scores, as the mean depression, anxiety and stress scores were within normal limits. Our results illustrated that cutaneous lymphoma may have a significant impact on patients' emotional well being, as compared to their symptoms and functional aspect of the disease. Health-related quality of life assessment should therefore be incorporated as a routine part of evaluating patients with cutaneous lymphoma.

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A fixed drug eruption producing vulval and oral ulceration

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A 57 year old woman presented with a 2 year history of an episodic illness. She noted ulceration of the genital and peri-anal region which commenced two weeks after a diarrhoeal illness whilst travelling in Turkey. The genital symptoms recurred three monthly for 9 months before she developed concomitant oral ulceration.

18 months after the initial onset of illness she then developed 'bruise like' skin lesions with central bulla that progressively increased in number and were usually associated with the orogenital ulceration.

Past history included back pain for which she took Ibuprofen, Glucosamine, Paracetamol, Meloxicam and Piroxicam. Other medications were Caltrate and Escitalopram.

She first presented to an immunologist and the differential diagnoses included recurrent herpes simplex infection, an immunobullous eruption and Behcet's syndrome.

The diagnosis of a fixed drug eruption was clinically suspected and confirmed on biopsy. The clinical presentation was subsequently found to be temporally associated with non-steroidal anti-inflammatory ingestion. Patch testing was inconclusive[1].

Although fixed drug eruptions are common on penile and oral mucosa, vulval ulceration is rarely reported and this case highlights the need to consider a fixed drug eruption in cases of recurrent oral and vulval disease[2,3].

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Ambulight an organic led automated battery operated light source compared to the Actilight for Metvix PDT

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Photodynamic therapy is well established as part of the management of Basal cell carcinoma.

The requirement for patients to return at a 3 hour interval and the discomfort of the treatment limit PDT for some. With the Use of a portable led home light source (Ambulight – Ambicare Health Ltd) that irradiates over 3 hours addresses these issues and also could reduce the possibility of local immunosuppression with the lower fluence.

With a very low fluence the discomfort is negligible (most patients score less than 3/10). The cases included in this pilot would indicate the effectiveness is comparable with standard Mal PDT.

For flat surfaces this option of home therapy appears to be a useful option for patients.

Fading away benign congenital melanocytic naevi with fractionated CO_2 Laser

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Congenital melanocytic naevi have been treated with a number of ablative laser and combination ablative and non-ablative systems.

These systems include erbium and CO_2 ablation with Q switched Neodymium Yag treatments. With the introduction of fractional ablative lasers another approach is now possible. We demonstrate almost complete normalization of colour with multiple sessions of CO_2 fractional laser. An average of 10 treatments is required to minimise the possibility of scarring. There is a critical ablation density that is required to achieve this fading. The power of the laser should be adjusted to ensure that the penetration of the laser approximates the base of the naevus. The CO_2 treatment alone will not remove the associated terminal hair. The hair can be removed with an appropriate laser or IPL system after the Naevus itself is faded. The parameters are still to be optimised to minimise treatments and any textural change. Approximately 30% of the naevus needs to be ablated per session. Healing is rapid and occurs within 5 to 7 days.

Improving clinical application of quality of life scores in epidermolysis bullosa (EB): Clinical significant outcomes in the QOLEB questionnaire

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Introduction: The Quality of Life in Epidermolysis Bullosa (QOLEB) score is an Epidermolysis Bullosa (EB) specific quality of life (QoL) measurement tool. It is a statistically valid and reliable questionnaire which has benefits over generic QoL tools in QoL evaluation in EB. It also has important implications in the evaluation of the clinical efficacy of new interventions in EB. The utility of this score would be increased if the clinical relevance of individual scores and changes in QOLEB scores could be further understood.

Method: In order to achieve this, the minimal clinically important difference (MCID) was calculated using both anchor-based and distribution-based techniques. Banding techniques were also applied to the QOLEB questionnaire in order to stratify scores into very mild, mild, moderate, severe and very severe categories.

Results: The MCID for the QOLEB score was calculated at a 6 point change in QOLEB scores, and the QOLEB bands were calculated as: 0–4 points for 'very mild', 5–9 points for 'mild', 10–19 points for 'moderate', 20–34 points for 'severe' and 35–51 points for 'very severe' impact on QoL. In our RCT of cell therapy for RDEB, the average change in QOLEB for each patient was 2.5 points by 3 months.

Conclusion: Calculating the MCID and clinical bands for the QOLEB questionnaire increases the breadth of clinical applications for the QOLEB questionnaire. It now has direct utility in determining the clinical significance of interventions in EB by evaluating changes in QOLEB scores and how they correlate to the MCID and clinical bands.

Case report: Painful nodules on the fingers, the presenting sign of an underlying malignancy

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Cutaneous metastases to the hand are rare accounting for less than 0.1% of all malignant metastases[1]. Presented is a very rare case of primary lung adenocarcinoma in a 64 year old male, whose diagnosis was made following presentation to a dermatologist with bilateral painful distal swelling of the 4th fingers without bony involvement. The prognosis in these patients is generally poor. It is important to consider this diagnosis in patients presenting with non-specific changes of the digit, as it could be confused with other inflammatory conditions, delaying diagnosis.

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Development of topical products to relieve sensitive skin

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Sensitive skin is an increasingly common skin condition for both men and women. Sensitive skin is caused by a hypersensitivity to a range of stimuli resulting in the subjective symptoms of burning, stinging and skin discomfort often in the absence of any visible change to the skin. Objective signs of irritation such as dryness, erythema and scaling may also be present. Impaired barrier function, increased permeability of the stratum corneum and acceleration of the nerve response have been identified as potential causes, however the condition is not fully understood.

The symptoms of sensitive skin can worsen in dry or cold climates or with frequent or prolonged use of cosmetics containing common irritants such as soaps and fragrance.

As the reactions to topically applied products can be immediate or delayed, the inclusion of ingredients in products designed for sensitive skin should be carefully selected to minimise further exacerbation of the symptoms.

Ingredients which moisturise sensitive skin are important to decrease trans-epidermal water loss and repair the barrier function. Ingredients which reduce redness and stinging increase the patient's product tolerance. A new product for sensitive skin has been developed which will help reduce the sensations of sensitive skin. It has been shown to have a non sting formula which is non irritating, non sensitising and non comedogenic and as good as hydrocortisone in erythema reduction.

Cosmeceuticals: A comparison of the safety and efficacy of alpha-hydroxy acids and Vitamin A derivatives

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The cosmeceutical industry, whose main focus is anti-aging products, is currently reported to generate approximately US$6.4 billion annually in the United States alone, and this figure is predicted to grow to US$8.5 billion by the year 2015.[1] Two of the most popular 'active' ingredients in over-the-counter anti-aging products are alpha-hydroxy acids (AHAs) and Vitamin A derivatives (retinoids).

While both AHAs and Vitamin A derivatives have been demonstrated to be effective at reducing the signs of skin aging when applied topically, there are a number of differences between AHA's and Vitamin A derivatives that are important.

Firstly, while the commonly used AHAs, glycolic acid and lactic acid, possess similar efficacy, there may be significant differences in efficacy between the retinoids, although all can be claimed as forms of Vitamin A on the product label. Secondly, the effectiveness of AHAs is backed up by extensive clinical trials and safety studies. Even the most promising of the retinoids in terms of efficacy and tolerance, retinaldehyde, requires further study to corroborate initial findings. And finally, although both ingredients have the potential to cause some irritation, most commonly in the form of mild stinging, AHAs have thus far been shown to be better tolerated.[2]

No matter what ingredients are used, the efficacy of commercially available over-the counter anti-ageing products should be demonstrated by independent verification.[3] Otherwise consumers and patients are simply buying 'hope in a jar'.

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Adult-onset erythropoietic protoporphyria associated with myelodysplastic syndrome

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A 56 year old man presented with new, progressive photosensitivity, with swelling and pain affecting exposed skin shortly after sun exposure. A porphyria screen was performed and was diagnostic for Erythropoietic Protoporphyria (EPP). A literature review revealed only 16 documented cases of adult-onset EPP and none previously in Australia. Subsequent haematological investigation of patient revealed the patient to also have myelodysplasia. This case represents the first documented case of adult onset EPP in Australia.

Inherited and acquired zinc deficiency disorders in dermatology revisited

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Zinc (Zn) is an essential element with catalytic, structural, and regulatory functions, and is important in skin formation and maintenance. Zn levels are highly regulated, and Zn transporters play a key role in Zn homeostasis. These transmembrane proteins are encoded by solute-linked carrier (SLC) gene families, ZnT (SLC30) and Zip (SLC39), and are highly expressed in the duodenum and jejunum. We now know that SLC39A4 gene located at 8q24.3 encodes Zip4, and is known as the acrodermatitis enteropathica (AE) gene.

AE is an autosomal recessive Zn deficiency disorder, mostly due to mutations in SLC39A4. The typical picture is an infant with eczematous scaly plaques that may become vesicobullous over the extremities, periorificial, and anogenital areas. Chronic cases present with alopecia and diarrhoea. Acquired Zn deficiency presents similarly, occurring in premature infants, vegetarians, alcoholics, malnourished, and those on total parenteral nutrition without Zn replacement.

Deficiency can be confirmed by measuring plasma or serum Zn levels taken pre-breakfast in a trace element-free collection tube. Results are to be interpreted accordingly, as Zn levels could be normal in a deficiency dermatitis that responds to Zn supplementation. Zn replacement is in the form of elemental Zn at 3 mg/kg/day in AE and 0.5–1 mg/kg/day in acquired Zn deficiency, and adjusted accordingly.

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The oral hedgehog inhibitor vismodegib (GDC-0449) in the treatment of locally advanced basal cell carcinoma: Experience of one Australian centre

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Introduction: The Hedgehog (Hh) signalling pathway plays a major role in growth and development; aberrant activation can lead to tumorigenesis. Specifically, mutations in PTCH or SMO lead to constitutive signalling and development of basal cell carcinoma (BCC). Vismodegib, an oral Hh pathway inhibitor, has demonstrated encouraging tolerability and anti-tumour activity in locally advanced (la) and metastatic BCC in Phase 1.

Method: A phase 2, multicentre, single-arm, two-cohort trial evaluating the efficacy and safety of vismodegib 150 mg/day in patients with advanced BCC was recently conducted. In total, 104 patients were enrolled in 31 centres worldwide. Our centre was the only enrolling site in Australia.

Results: We enrolled two female patients with laBCC. The first patient had Gorlin syndrome, and presented with a recurrent ulcerated BCC on her mid-back. The ulceration resolved within 8 weeks of vismodegib treatment, and the BCC was almost completely clear at 24 weeks. Her other non-target BCCs also resolved. An infiltrative SCC on the left side of her nose was noted at week 24, appearing in an old scar; she had no other major adverse events, except for mild dysgeusia and loss of appetite.

A second patient had a recurrent BCC on her nose that had completely resolved after 16 weeks of vismodegib treatment, and was still clear at 24 weeks by physical examination. The patient had no major adverse events, and remained clear of BCC at 1-year follow-up.

Conclusion: Vismodegib 150 mg/day showed efficacy against laBCC in two female patients at our centre in Australia.

The use of activated protein C for treatment of large chronic wounds secondary to pyoderma gangrenosum

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Introduction: Pyoderma Gangrenosum (PG) is a systemic disease that manifests with cutaneous necrotizing ulceration, that produces deep necrotic ulcers, usually with an elevated, undermined violaceous border. Treatment is typically high dose immunosuppression, but more recently anti-tumour necrosis factor and anti-monoclonal antibodies have been used. Activated protein C (APC) stimulates wound healing in patients with treatment-refractive skin ulcers, possibly by stimulating angiogenesis and re-epithelialization and preventing inflammation.

We investigated whether APC may be beneficial as a treatment for ulcers related to cutaneous PG.

Method: Patients were recruited with clinical history and examination and histopathological evidence of acute PG. A total of 400 μg (1.0 ml) of APC was injected subcutaneously into the dermal edge of necrotic PG ulcers weekly for a total 6 week period. Clinical progress, size, pain score and photographs were monitored during this period and after the cessation of treatment at week 8 and 3 months.

Results: APC led to a reduction in wound size (40 cm^2 to 25 cm^2 (37.5% decrease), 3.8 cm^2 to 2.6 cm^2 (31.6% decrease)) and pain scores (10 to 4 (60% decrease), 10 to 5 (50% decrease)) over the 8 week period of the trial. There was a corresponding decrease in depth of the ulcers on visual assessment. There was seemed a pronounced reduction in size between week 8 and 3 month.

Conclusion: Activated protein C has potential as a therapeutic option for patients with chronic skin ulcers from Pyoderma Gangrenosum.

Systematized epidermal nevus with epidermolytic hyperkeratosis treated with combined calcipotriol/ betamethasone dipropionate cream

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Introduction: Epidermal nevi are common, benign epidermal proliferations found along Blaschko's lines. Systematized epidermal nevus is used to describe extensive lesions occurring bilaterally. Histologically, they may have features of epidermolytic hyperkeratosis, implying a mosaic mutation in keratin 1 or keratin 10 genes.

Case report: A 5-year-old boy presented for a progressive rash on his trunk and limbs since infancy. He had no other medical problems and family history was unremarkable. On examination, there were pink, scaly, psoriasiform plaques on his trunk, and hyperpigmented, verrucous plaques on his limbs, in a Blaschkoid pattern. Punch biopsy showed hyperkeratosis and irregular psoriasiform hyperplasia with vacuolar degeneration of keratinocytes in the upper and mid-granular layers, consistent with epidermal nevus with epidermolytic hyperkeratosis. He was started on once daily topical calcipotriol / betamethasone dipropionate combination cream with improvement of lesions after 6 months of treatment.

Discussion: Epidermolytic hyperkeratosis may be seen in patients with systematized epidermal nevus. This has been shown to represent a mosaic disorder of keratin 1 or keratin 10 mutation. Importantly, these patients may transmit the mutation to an offspring resulting in bullous congenital ichthyosiform erythroderma, underlying the need for genetic counseling in these patients. Treatment of extensive epidermal nevi is difficult and we report a first patient responding to topical calcipotriol / betamethasone dipropionate combination cream.

Pemphigus vegetans: A recalcitrant case

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Pemphigus vegetans is a rare variant of pemphigus vulgaris an autoimmune bullous mucocutaneous disorder. It is characterised by the development of flaccid blisters and superficial papillomatous vegetations usually affecting the oral mucosa and intertriginous areas. This report describes a case of pemphigus vegetans diagnosed in a 42-year-old man with concurrent active herpes simplex virus type 1. Diagnosis was confirmed on clinical examination, histopathology and immunopathological findings, and extensive screening did not reveal any malignancy. The skin lesions proved to be resistant to a combination of high dose steroids and azathioprine, requiring the addition of intravenous immunoglobulin. The patient experienced multiple relapses of disease following dose reduction of steroids and azathioprine. These initially responded well to further doses of intravenous immunoglobulin, however rituximab is now planned to be trialled.

Mosaic Ehlers-Danlos syndrome

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Ehlers-Danlos syndrome (EDS) is a heterogeneous group of inherited disorders of connective tissue, the hallmarks being hyperextensible skin, hypermobility of the joints and fragility of skin and blood vessels. It is classified into subtypes I-VIII and X, with some overlap of the subtypes. It is considered to be a generalized disease. We present an extremely rare presentation of mosaic EDS.

Case report: The fish tank strikes again – Metachronous atypical mycobacterial skin infection in an immunosuppressed host

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History: An 82-year-old woman on long-term prednisolone for chronic obstructive airways disease presents with a two month history of nodules on her left forearm. Ten years prior she had been diagnosed with culture-proven *Mycobacterium marinum* infection after presenting with similar nodules on her right forearm. She had continued to keep tropical fish.

Examination: Examination of her left forearm revealed multiple nodules in a sporotrichoid distribution. She had a longstanding olecranon bursa over her left elbow which was asymptomatic.

Investigations: Histopathological examination of punch biopsy specimens revealed suppurative granulomatous inflammation consistent with atypical mycobacterial infection. PCR and culture were positive for *Mycobacterium*

chelonae. *M. chelonae* was also isolated from fluid aspirated from her olecranon bursa.

Treatment and progress: The patient is responding well to oral clarithromycin 750 mg/day. The olecranon bursa has also been surgically excised.

Discussion: To our knowledge this is the only reported case of metachronous atypical mycobacterial skin infection in the literature. We provide an overview of atypical mycobacterial skin infections and discuss treatment options.

Oral aphthosis: A 10-year review of patients seen at an Asian tertiary dermatological centre

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Introduction: Oral aphthosis is the commonest oral ulcerative condition encountered in clinical practice and significantly impacts on quality of life. This study describes the characteristics and patterns of oral aphthosis seen at a tertiary dermatological centre in Singapore, with emphasis in evaluating underlying systemic diseases and nutritional deficiencies.

Methods: This is a retrospective medical records review over a 10-year period between June 2000 and June 2010. 213 patients were identified using the search terms "oral ulcers", "aphthous ulcers", "oral aphthosis", and "Behcet's disease. Patients with Behcet's disease without oral ulcers and other diagnoses such as pemphigus vulgaris, lichen planus and herpes simplex were excluded. The remaining patients were evaluated with regards to demographics, characteristics of oral ulcers, associated connective tissue disorders and nutritional deficiencies, diagnostic tests results, treatment response and follow up duration.

Results: 175 patients were included in this study. 101 patients had recurrent oral aphthosis, with 77 having simple aphthosis and 24 having complex aphthosis. 14 patients (8%) fulfilled the International Study Criteria (ISG) for Behcet's disease, the majority (85.71%) having complex aphthosis. Mean duration of follow up for all patients was between one to six months, of which 56 patients experienced a relapsing course. The therapeutic ladder for such patients ranged from topical steroids to colchicine, oral corticosteroids and/or dapsone therapy. This study demonstrates that a more definitive management and therapeutic algorithm for oral aphthosis is needed to encourage more comprehensive management of future patients. Complex aphthosis in particular requires monitoring for progression onto Behcet's disease.

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Anti-laminin γ1 pemphigoid: Clinical and immunological findings in a series of 8 cases

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Background: Anti-laminin γ1 pemphigoid is an immunologically distinct autoimmune subepidermal blistering condition characterized by autoantibodies targeting a 200-kDa antigen at the dermal-epidermal junction (DEJ), characterized as laminin γ1, an extracellular matrix glycoprotein.

Observations: We report the cases of 8 adults with anti-laminin γ1 pemphigoid aged 33 to 90 years. Two patients had mucosal involvement. The majority presented with tense blisters over acral sites resembling acral bullous pemphigoid (BP) or epidermolysis bullosa acquisita (EBA). All patients showed subepidermal blistering, and majority had neutrophil-rich subepidermal blisters. There were granular deposits of IgG and C3 at the DEJ on direct immunofluorescence, and dermal binding reactivity on indirect immunoflourescence in all patients. None had positive antibodies to 180-kDa bullous pemphigoid (BP180) or 230-kDa bullous pemphigoid (BP230) antigen, whilst immunoblotting was positive in all for antibodies to 200-kDA anti-laminin γ1 antigen. The therapeutic ladder ranged from topical corticosteroids, to dapsone and immunosuppressive therapy including high dose intravenous immunoglobulins, mycophenolate mofetil and azathioprine. One patient has ongoing recalcitrant disease with good response to two courses of intravenous rituximab.

Conclusions: Anti-laminin γ1 pemphigoid is a distinct cause of autoimmune subepidermal blistering. Although clinically similar to BP, it has a higher frequency of mucosal involvement, a predilection for acral sites and the presence of neutrophil-rich subepidermal blisters. Immunochemistry also excludes BP and EBA by the absence of antibodies to BP180 and BP230, dermal binding reactivity on indirect immunoflourescence, and immunoblot positivity for specific antibodies against anti-laminin γ1 antigen. Therapy with anti-CD20 monoclonal antibody, rituximab, may represent a promising option for recalcitrant cases.

A review of the existing measurements of itch

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Introduction: Itch is a significant symptom that affects a sizeable proportion of the population. An accurate tool to

quantify itch is crucial for healthcare professionals to better understand itch severity and the impact of itch on an individual's quality-of-life. This will in-turn facilitate better management of patients with itch.

Method: A review of the existing literature regarding attempts to quantify or characterise itch was undertaken. Research study methodologies were also scrutinised to better understand how these tools were developed. In addition, the different types of scales used to rate symptoms were evaluated.

Results: A total of seven relevant studies were identified. Out of these, only two studies involved attempts to quantify itch. However, none of these studies involving itch have been developed based on the experiences of patients with itch. Rather, these tools have been developed either from existing symptom scales, such as the Total Neuropathy Score and the McGill Pain Questionnaire, or adapted from other studies identified in this review.

Conclusions: By adapting measures of itch from these measures, there is the underlying assumption that itch is similar to these symptoms. However, the sensation of itch is unique and very distinct from other symptoms such as pain. As such, it is important to develop a measure of itch based on the experience of patients suffering from pruritus. Filling this void, especially for conditions associated with a significant degree of itching, is vital in ensuring the optimal monitoring and management of itch in these patients.

A case report of unilateral multiple congenital glomangiomas

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Introduction: Glomangiomas are relatively rare benign cutaneous vascular tumours arising from glomus bodies, which are specialised cells for thermoregulation. They account for 10% of all glomus tumours[1]. They are often found in the upper extremities, but other reported sites include lower extremities, head, face and trunk[2]. Congenital forms are very rare.

We report an unusual case of a 6 year old girl with unilateral multiple congenital glomangiomas. A literature review has revealed only one other reported case of similar presentation.

Methods and results: The patient demonstrated congenital lesions that were bluish-purple, confluent, plaque-like with a unilateral distribution. They involved the right forehead, scalp, upper chest, arm, back, abdomen and heel. The size of the lesions ranged from 1.5 to 4 cm in diameter. All lesions had been gradually enlarging in size since birth, with no other systemic signs and symptoms. She is the only child in the family and there was no family history of similar lesions. Histological examination of one of the lesions showed features of glomangioma. Her glomangiomas have been managed conservatively at this stage.

Conclusion: The clinical appearance of glomangiomas often causes them to be mistaken for lymphangiomas or hemangiomas. Our case demonstrates an interesting and unusual presentation of congenital glomangiomas in childhood. This highlights the need to consider glomangiomas as a differential diagnosis in assessing a patient with vascular malformations.

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Hedghog pathway inhibitor Vismodegib (GDC-0449) in metastatic basal cell carcinoma

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Introduction: The Hedgehog signaling pathway is vital for cell differentiation and growth during embryonic development. Abnormal hedgehog pathway activation is implicated in the carcinogenesis of many cancers, including basal cell carcinoma (BCC)[1–3]. Vismodegib (GDC-0449), a small molecule inhibitor of the Hedgehog signaling pathway, has been shown to have promising anti-tumour activity in advanced BCC[4–6]. It has recently been approved by the US Food and Drug Administration (FDA) for use in locally advanced/ metastatic BCC.

Method and results: We report a case of a 67-year-old Australian male with a previous history of ten small primary cutaneous BCCs over 20 years. In 2006 he developed left axillary nodal metastases that were resected, followed by radiation therapy. In 2009 rib and pulmonary metastases became symptomatic. In spite of further radiation therapy to his ribs and a lobectomy, by 2011 he was in pain and had progression of his pulmonary metastases with pleural effusions and increasing breathlessness. Histopathlogy on all excised material showed features of basal cell carcinoma. He was commenced on a trial of Vismodegib 150 mg in Stanford Hospital, California in June 2011.

Within two months of commencing therapy he felt well and was enjoying 18 holes of golf. A Computed Tomography (CT) scan in January 2012 showed an apparent complete response to the trial therapy. Over several months he developed the characteristic side effects of the drug. The most distressing adverse effect has been a progressive loss of taste sensation leading to some weight loss. There has also

been progressive thinning of his scalp hair and increasing discomfort associated with muscle spasms. In all other respects he has tolerated the drug well.

Conclusion: This is the first report from Australia of the use of Vismodegib in metastatic BCC. Targeted molecular therapy shows promise in the management of patients with Gorlin's syndrome, as well as in the control of locally advanced/ metastatic BCCs. Patients who cease treatment develop recurrences and the extent to which the treatment is curative remains to be determined.

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Squamous dysplasia induced by hydroxyurea

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A 65 year old man with essential thrombocythaemia treated with a stable dose of hydroxyurea for 10 years presented with a 3-year history of dry scaly skin confined to photoexposed areas. On examination, diffuse scaling and erythema affected his scalp, face, and dorsum of hands. Skin biopsy of an eroded area over the dorsum of his left hand showed high grade squamous dysplasia. Clinically invasive skin cancers were not observed.

Hydroxyurea was stopped, and a reduction in scaling in affected areas was noted on 4 months review.

Hydroxyurea-induced squamous dysplasia may resemble solar keratoses, chronic photosensitivity dermatitis or dermatomyositis. It may have a prolonged latency period of 2–13 years prior to gradual to explosive onset of squamous dysplasia. It is associated with multiple and aggressive squamous cell carcinomas.

Prompt cessation of hydroxyurea usually leads to improvement or resolution of cutaneous dysplasia.

Autosomal recessive chronic granulomatous disease

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A 6 year-old East African Child born to 1st cousin parents presented to the paediatric casualty with a four day history of fever and sore throat. She had a recurrent history of conjunctivitis and fevers since 2008. Dermatological problems included eczema and a scaly scalp, thought to be *Tinea capitis* associated with secondary infections. Her two elder siblings were well and there was no significant family history.

On examination, she had a flaky scalp and a well circumscribed plaque, eczema over her face and body as well as bilateral red eyes. She had cervical lymphadenopathy. This had been investigated in 2007 with a lymph node biopsy which showed multiple well defined granulomas. Histochemical stains and culture did not reveal a specific aetiological agent. She had subsequently been lost to follow up until this presentation.

A CXR showed hilar lymphadenopathy and a reticular pattern suggesting infiltrates. Multiple small hypoechoic mesenteric and para-aortic lymph nodes, and hypoechoic foci were seen in the spleen on the abdominal ultrasound.

A diagnosis of autosomal recessive chronic granulomatous disease (AR-CGD) was made on Dihydrorhodamine flow cytometry analysis and confirmed by mutation testing which showed a lack of p47 expression.

CGD was first described in 1954 following a series of 5 paediatric cases. The AR inheritance accounts for 33% of CGD. Patients with CGD are more prone to fungal and catalase positive bacterial infections.

This case prompts us to suspect rarer diagnoses in children with recurrent and persistent skin infections, and establish a quicker diagnosis and management.

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Fatty acid deficiency presenting as a necrolytic migratory erythem-like eruption in a young Australian female

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Necrolytic migratory erythema (NME) is a rare cutaneous eruption most commonly associated with a glucogon secreting islet cell tumor. It has also been reported in association with malabsorption or malnutrition syndromes causing amino acid deficiencies, advanced liver disease, other neoplasms and a single report associated with illicit opioid use. We present a case of an NME-like eruption occurring in a young female with fatty acid deficiencies resulting from restrictive dietary practices that resolved with fatty acid supplementation.

Leukaemia cutis in chronic lymphocytic leukaemia following varicella zoster virus reactivation

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We report a case of a 75-year-old male with a six-month history of a painful, zosteriform eruption in a T3–4 distribution, proven to be chronic lymphocytic leukemia (CLL) on biopsy and with immunohistochemistry. His pain and the papulonodular eruption were successfully treated with chlorambucil. We believe this represented leukemia cutis related to varicella-zoster virus reactivation (VZV). Whilst some prior studies suggest that leukaemia cutis heralds a poorer prognosis in CLL, it is now proposed that this may not be the case;[1,2] a theory supported in the case detailed here. At present, there is limited data available to guide treatment decisions. Chlorambucil was effective treatment for this cutaneous manifestation in a patient who otherwise would not have warranted treatment for CLL.

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Atypical fibroxanthoma with multiple local recurrences in a renal transplant recipient

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Atypical fibroxanthoma (AFX) is an uncommon cutaneous mesenchymal tumour that primarily presents at sun-exposed sites of elderly individuals. Solid organ transplant recipients (OTRs) have increased risks of developing cutaneous malignancies. We describe a case of AFX in a renal transplant recipient with four local recurrences in four years. To our knowledge, there are five reported cases of AFX in OTRs, two of which involved local recurrences, but the follow-up durations were limited. This case highlights the potential management challenges of AFX in OTRs.

Review of side effects of immunosuppressive agents used for autoimmune blistering diseases

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Autoimmune blistering diseases (AIBD) is a term used to describe a heterogeneous group of diseases involving the skin and mucosal membranes. Common AIBD include bullous pemphigoid, pemphigus vulgaris and pemphigus foliaceus. The mainstay treatment for these conditions is the utilization of corticosteroids and/or immunosuppressive agents that induce a symptomatic remission of AIBD. Such therapeutic options need to be considered wisely as there is significant morbidity and mortality associated with treatments.

The vast amount of literature available regarding immunosuppressive medications mostly focuses on the efficacy and side effects in relation to other autoimmune conditions, with limited data specific to AIBD. This literature review involved searching databases including MEDLINE, Embase and national databases of adverse drug reactions from 1980 to October 2011 to find papers, which reported adverse effects of these medications. 242 reports were found, the majority (78/242 = 32%) on corticosteroids, 13% on azathioprine, 18% on mycophenolate mofetil, 13% on mycopheno-

late sodium, 7% on cyclophosphamide, 5% on cyclosporine, 7% on dapsone, 6% on methotrexate, 18% on rituximab and 5% on IVIg. All information regarding their practice and adverse effects in dermatological and non-dermatological cases was noted. This review contributes to the knowledge of treatment related adverse effects of commonly used drugs in AIBD and will help clinicians explain these potential adverse effects to their patients when managing AIBD.

Which sunscreens protect best? A theoretical and practical analysis to help improve compliance

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Dermatologists are often asked, what SPF to use or which sunscreen they recommend. This paper helps answering this question. Four major factors influence topical sun protection provided by sunscreen: (1) technology, mainly the combination of UV filters, (2) UV protection standards imposed by authorities or self-imposed by the industry, (3) performance assessment and (4) compliance, i.e. the actual use of the sunscreen – frequency, amount and uniformity of its application [1]. All these four factors may influence each other. Except in the USA, sufficient UV filters are now available to cover practically the whole UV range effectively [2]. Sun Protection Factor (SPF) and Ultra Violet A Protection Factor (UVA-PF) standards and measurements are on a good way to global harmonisation. However compliance of sunscreen still requires improvement. It has been shown that sunscreen use can prevent skin cancers [3], but good compliance is a prerequisite for that. Besides behavioural aspects, there are sunscreen characteristics beyond SPF and UVA-PF that are important for good compliance, e.g. spreadability or tackiness impacting if the user likes to apply and wear it [4]. There are significant sensorial differences among sunscreens in their potential to help improving compliance. This paper examines sunscreens of the same SPF and UVA-PF regarding practical and theoretical parameters.

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Paederus dermatitis in mine workers from insects attracted to high power artificial lighting

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We present the case of multiple night shift mine workers presenting to their health and safety representative with a blistering, pruritic rash on their necks and abdomens, following exposure to the rove beetle (*Paederus sp*) attracted by external illumination during a night shift. The resulting rash, Paederus dermatitis, results from inadvertent crushing of the beetle with the subsequent release of its toxin, pederin. Paederus dermatitis is a contact irritant dermatitis resulting from the crushing of the Paederus beetle on exposed skin resulting in the release of the irritant, pederin. One of the characteristics of the blister type lesion reported from the rove beetle is the "kissing" lesion, where a beetle is crushed within a flexure, which sees a sparing of the tissue not in direct contact with the toxin. This is a phenomenon that has been uncommonly reported in Australia, and rarely in western New South Wales. Two species of Paederus are reported in Australia to cause vesicular eruption, *Paederus australis* and *Paederus cruenticollis*.

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Liposarcoma of the tongue, a rare oral entity: A case for increased reporting of rare lesions

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Introduction: Liposarcomas are a rare and not often reported lesion of the oral cavity, even rarer are reports of liposarcomas involving the tongue. Liposarcomas are the most common sarcomas of adulthood and normally appear in middle to late adult life in deep soft tissue of the proximal extremities and retroperitoneum, rarely involving the head and neck, even more rarely the oral cavity.

Methods: We present the case of a 77 year old male with a liposarcoma of the tongue treated with a hemiglossectomy, and subsequently a review of the literature involving liposarcomas involving the tongue.

Results: Review of the literature on liposarcomas of the tongue, including a longitudinal study which reviewed 5435 liposarcomas between 1974 and 2000, of which 0.3% where within the oral cavity. Of those involving the oral cavity, approximately 1/3 involved the tongue. Based upon the reviews conducted by Laco et al. and Allon and subsequent reviews and case reports, only 41 cases have been reported within the literature.

Conclusions: This lesion is rarely reported and as such is not normally considered by a treating clinician at presentation. The current trend of dissuading the submission of case reports to journals or conferences decreases the opportunity to fully appreciate the trends in incidence of rare and uncommon tumours. An increased level of reporting of rare lesion brings such pathology to the forefront of the clinicians' differential diagnosis and allows for the reporting of the true incidence of such tumours.

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Retinoid chemoprophylaxis for non-melanoma skin cancer (NMSC) in Australia/New Zealand

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There is little consensus for either primary or secondary prevention of NMSCs using retinoid chemoprophylaxis in Australia and New Zealand. Several national guidelines for skin cancer, in solid organ transplant recipients, recommend chemoprophylaxis with acitretin, as does a 2008 Cochrane review. There is however, currently insufficient evidence regards the value of retinoid chemoprophylaxis in immunocompetent patients.

Sixty-nine Australian and 48 NZ dermatologists responded to a survey of their experience of chemoprophylaxis for NMSC. 115/117 (98%) reported having used acitretin, mostly as secondary prevention in patients who were either immunosuppressed or who had had more than 5 recent NMSCs. 92% found it to be very or moderately useful for multiple actinic keratosis, 95% for low-risk SCC and 76% for high-risk SCC. Only 9% found it helpful for nodulocystic BCC. Most (51% Australian and 73% NZ) used an initial dose of 10 mg/day, with some starting as low as 10 mg once-per-week, and others at 40 mg/day. 25% of NZ dermatologists, but only 6% of Australian dermatologists, stated they had used isotretinoin as an alternate to acitretin. Over a third reported having used a topical retinoid for chemoprophylaxis.

Skin carcinogenesis is a complex multistep process with at least three defined steps: initial DNA damage (initiation), further genomic damage (promotion), and invasion (progression). *In-vivo* and *in-vitro* studies suggest that retinoids may inhibit these last two steps of carcinogenesis: promotion and progression. It is possible that earlier introduction of very low dose acitretin (e.g. 5 mg × 2–3/week), may be effective for primary/secondary chemoprophylaxis of NMSC.

The dermatological burden in Australian general practice

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General Practice conducts over 29 million consultations per year in Australia. Traditionally research suggests that about 10% of these consultations involved skin related patient concerns.

This study was conducted as a prospective practice audit of 200 consecutive patients seen in my general practice in December 2010.

Data will be presented on the incidence and types of skin conditions that presented as well as the results of a doctor initiated questionnaire looking for current and past skin conditions and symptoms present at the time of consultation but not the subject of the consultation.

The questionnaire suggests that over a third of patients had symptoms of active skin disease and that approximately 2% had seen a doctor concerning their concerns.

The paper will look at the need for further tool development for general practitioners to identify skin symptoms and provide appropriate care and referral for best practice care of the patient.

Striae distensae: An ultrastructural investigation

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Introduction: Striae distensae, otherwise known as stretch marks, are white or red scar-like streaks on the skin. They have an initial inflammatory phase, know as *striae rubra*, in which the streaks appear elevated and red to violaceous. Over time the colour fades and they become white and atrophic, known as *striae alba*[1]. Although not associated with adverse health outcomes, striae are associated with significant cosmetic morbidity. While striae are well characterised histopathologically, a non-invasive, microscopic method of lesion assessment would be welcome.

Methods: To gain insight into the small-scale morphologic features associated with striae we undertook an *in-vivo* investigation of striae alba and striae rubra utilising reflectance confocal microscopy (RCM).

Results: Here we demonstrate that features known to be present using light microscopy – such as parallel collagen bundles in the dermis; and some features that are not well recognised by light microscopy – including distortion of dermal papillae, are demonstrable using RCM. Characterising the features of early and established striae distensae with confocal microscopy is an important foundation for future work. The potential ability to reliably identify the earliest pathological changes in skin in early lesions or before clinically manifest striae develop – a task facilitated by our findings – will increase understanding of pathogenesis, and will have significant practical utility in monitoring the impact of future preventative interventions.

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Persistent erythema multiforme – Is it in the jeans?

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Persistent erythema multiforme (PEM) has a protracted course and is associated with significant morbidity and psychosocial impact. Response to treatment is often suboptimal in the absence of precipitant antigen identification and avoidance, however this is achieved in less than 50% of patients.

We describe a case of PEM of the lower limbs, which had been resistant to over 15 years of treatment with acyclovir, dapsone and minocycline. Long-term corticosteroid treatment had provided a transient clinical improvement, but at a cost of osteopaenia and multiple low energy traumatic fractures.

Comprehensive review of the history identified that symptoms of PEM had started 15 years earlier after hair colouring had been associated with a pruritic, erythematous scalp rash. Patch testing confirmed sensitivity to paraphenylenediamine (PPD), a substance commonly used in hair and textile dyes. Punch biopsy of the patch-tested area confirmed histology consistent with erythema multiforme. Avoidance of contact with clothing processed with black dyes, in particular, the patient's black denim jeans, resulted in resolution of the lower limb PEM.

PPD and PPD-like compounds are well-implicated allergic contact dermatitis associated with hair dyes. Here we present a case of likely prior sensitisation by hair dyes, but with subsequent chronic exposure to clothing dyes resulting in a protracted history and unusual pattern of distribution of PEM.

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Intralymphatic granulomas in lymphoedema secondary to ano-genital granulomatosis

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The granulomatous inflammation seen in filariasis, orofacial granulomatosis (OFG), rosacea and sarcoidosis can be

associated with lymphoedema. In the setting of OFG, the finding of intralymphatic granulomas has been reported as a possible mechanism for this.

Anogenital granulomatosis (AGG) is a similar chronic inflammatory condition of unknown pathogenesis. It presents as granulomatous genital/ano-perineal inflammation and associated lymphoedema, with histological findings of non-caseating granulomas and a perivascular infiltrate.

We report a case of AGG and lymphoedema with intralymphatic granulomas seen on biopsy. This finding is unique and we propose that the intralymphatic granulomatous inflammation causes partial or complete occlusion of lymphatic drainage, thus resulting in the clinical scenario of lymphoedema.

Sunscreens with SPF values are not equivalent in the protection from UVA induced polymorphous light eruption

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Introduction: Polymorphous light eruption (PLE) is characterized by increased expression of proinflammatory molecules such as ICAM-1. Photoprovocation studies have previously revealed that in the majority of PLE patients (80%), skin lesions can be induced through repetitive exposure to UVA-1 radiation (340–400 nm).

Method: In this double blind, intra-individual comparative study, we have assessed if PLE -esions can be effectively prevented through pretreatment with 3 different sunscreen formulations:

- Sunscreen A: SPF > 75; UVA-PF/ IPD 15
- Sunscreen B: SPF = 35; unknown UVA-PF
- Sunscreen C: SPF > 60; UVA-PF/ PPD 28.

Nine patients susceptible to PLE were photo-provocated by exposing four sensitive skin areas to 100 J/cm^2 of UVA-1 during 3 consecutive days. Prior to exposure, skin areas were either left untreated, or pretreated with cream A, B or C.

Results: We found that cream C was highly effective in providing complete protection against UVA-induced skin lesions in 9/9 patients. In contrast, cream A provided partial protection in 7/9 and complete protection in only 2/9, and cream B protected partially in 1/9 and completely in 0/9 patients, whereas 8/9 showed no protection.

The very high protective effect of cream C was corroborated by immunohistochemical studies in which strong ICAM-1 expression was found in unprotected skin areas, but not in cream C pretreated areas.

This study clearly shows that formulations having similar SPF values are not equivalent in preventing UVA-induced PLE.

Prevention of solar induced immunosuppression by a broad-spectrum sunscreen

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Introduction: It is now well established that UVB (290–320 nm) but also UVA (320–400 nm) are responsible for alterations of the cutaneous immune system and may be at the etiology of skin cancers.

We previously studied the effect of exposure to UVB and UVA or only UVA on the delayed-type hypersensitivity response (DTH). DTH was assessed using a Multitest kit (Pasteur/Mérieux), in order to evaluate modifications of the cutaneous immune capacities.

Method: The aim of the present study was to evaluate, in human volunteers, under real sun-exposure conditions, the efficacy of a broad-spectrum sunscreen in preventing loss of DTH response.

DTH tests were performed before and after sun-exposure of the upper part of the back of 14 volunteers. A non-exposed area (forearm) was used as control. Prior to sun-exposure, subjects were treated with the sunscreen formula (SPF 50+ and UVA-PF / PPD 28).

Volunteers were sun-exposed during 6 days. They received a total UV-dose equivalent to 64 MED and 400 J/cm^2 of UVA. Compared to the DTH response we obtained before sun exposure, we did not detect any changes in the immune response when skin was protected by the sunscreen formula.

Results: We have demonstrated that, under intensive sunlight exposure, the use of a highly protective broad-spectrum sunscreen can prevent from photoimmunosuppression. This is of particular importance if we consider the possible link between immunosuppression and skin cancers development.

UV-induced production of immunosuppressive mediators in human skin: Prevention by a broad-spectrum sunscreen

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Introduction: Exposure of the skin to UV-light induces local as well as systemic immunosuppression.

The protective effect of a broad spectrum sunscreen on the UV-induced production of immunosuppressive mediators as interleukin-10 (IL-10) and α-melanocyte stimulating hormone (αMSH) was investigated.

Method: The volar side of the forearms of 4 human volunteers was exposed to 2 MED of SSR, 30 minutes after the application of 2 mg/cm^2 of either the broad-spectrum sunscreen SPF50, UVA-PF/ PPD 28 or its vehicle.

24 hours after exposure, suction blisters were performed and analysed with ELISAs technique for IL-10 and αMSH. Total mRNA was also isolated from the blister roofs, and used for RT-PCR using primers specific for IL-10, αMSH and β-actin.

Whereas, in the vehicle-controlled area, erythema was clearly visible, it was suppressed on the broad-spectrum treated area. Moreover, in comparison to untreated skin, IL-10 and αMSH expression was significantly upregulated in UV-irradiated skin both at the protein and mRNA level. Upon treatment with the broad-spectrum sunscreen, the αMSH and IL-10 levels in the suction blister fluids were decreased in comparison to the untreated control area. Similarly, mRNA expression of IL-10 and αMSH was down-regulated when compared to untreated irradiated skin.

Results: These data confirm the induction of immunosuppressive mediators in vivo in the skin upon irradiation with UV-light. In addition, there is evidence that the use of a broad-spectrum sunscreen can inhibit the UV-mediated induction of these suppressor factors and thereby may prevent local UV-induced immunosuppression.

Evaluation of the effectiveness of an external broad-spectrum sunscreen in the prevention of drug-induced phototoxic reactions

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Introduction: Many drugs have been incriminated in phototoxic and photoallergic responses in the UVA range (320–400 nm).

Methods: The objective of this intra-individual, randomized comparative study was to assess the role of an external broad-spectrum sunscreen versus vehicle in volunteers taking systemic medication known to induce phototoxicity (i.e. doxycycline or chlorpromazine). The Minimal Phototoxic Dose (MPD) was determined on the back of each volunteer, 24 hours after exposure to increasing doses of UVA. The 20 positive patients were either treated with 2 mg/cm^2 of a broad-spectrum sunscreen (SPF 50+, UVA-PF/ PPD28) or its vehicle. The treated zones were exposed, 15 minutes after application, with 0.75, 1 and 1.25 MPD of UVA. The degree of erythema was assessed 24 and 48 hours after exposure by colorimetry and by a visual score.

Results: For the 0.75 MPD UVA dose, on the protected area, only one very light erythema was observed 24 hours and no reaction 48 hours after exposure, whereas very light to light erythema was detected on the vehicle treated area in 14 and 3 patients, respectively. For the 1.25 MPD, only very light erythema was noticed on the protected area in 3 patients, whereas light to mild erythema was observed on the vehicle treated area in 18 and 1 patients, respectively. All these results were reinforced by colorimetric evaluations.

Discussion: This study clearly demonstrates, in addition to good tolerance, the benefits of using an effective and correctly applied external broad-spectrum sunscreen to prevent drug-induced phototoxic reaction.

Adult-onset periorbital xanthogranuloma

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Xanthogranulomas are a form of non-Langerhan's cell histiocytosis. They are most commonly found in a paediatric setting as self-limiting, solitary papules or nodules on the head and neck. Adult onset is reported infrequently.

We report a case of a 46 year old male who presented with a ten year history of multiple, red-brown and yellow papules on his upper and lower eyelids and peri-orbital skin bilaterally. He had no significant medical history and was systemically well. There was no evidence of proptosis or extra-ocular motility limitation.

A shave biopsy demonstrated a nodular infiltrate of CD68 positive, small histiocytes filling the papillary and reticular dermis. Foamy cells and rare Touton Giant cells were identified. There was no necrosis.

A work-up to exclude associated systemic disease included urinary Bence Jones and paraprotein studies, FBC, serum protein electrophoresis, fasting lipids, an ECG, and a chest x-ray. These studies were all normal.

A diagnosis of adult-onset periorbital xanthogranuloma was made. This is a rare dermatological condition that typically presents as a histiocytosis limited to the skin. Exclusion of necrobiotic xanthogranuloma, Erdheim-Chester disease, and intra-ocular histiocytic deposits are important measures in the work-up. Treatment is limited but includes intra-lesional and oral steroids, cyclophosphamide, and surgical excision.

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Malignancy rates in Ustekinumab psoriasis clinical trials: Up to 4 years of follow-up and comparisons to the general US population

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Objective: Malignancy rates were evaluated in ustekinumab clinical trials, now with up to 4 years of exposure, and compared with rates expected in the general US population.

Methods: Rates of basal (BCC) and squamous cell (SCC) cancers or nonmelanoma skin cancers (NMSCs) and all other malignancies cumulatively and by year of exposure were evaluated in moderate-to-severe psoriasis patients in Phase 2&3 trials. For malignancies other than NMSC, standardized incidence ratios (SIRs) compared observed malignancy rates in ustekinumab-treated patients to rates expected in the US population adjusted for age, sex and race based on data in the National Institutes of Health SEER database (2009).

Results: 3117 patients were treated with ustekinumab with 6791 patient-years of follow-up (PY) for up to 4 years (2261, 1286, and 619 patients treated for > 2, > 3, and > 4 years, respectively). Incidence of NMSC/100 PY for ustekinumab 45 mg & 90 mg was 0.70 (95% CI: 0.43, 1.09) and 0.53 (95% CI: 0.33, 0.82), respectively; 41 cases were observed (34 BCC and 10 SCC skin cancers [BCC : SCC, 3:1]). Incidences/100 PY of NMSC by year evaluated were 0.94 (95% CI: 0.60, 1.40) year 1, 0.49 (95% CI: 0.21, 0.96) year 2, 0.41 (95% CI: 0.15, 0.88) year 3, and 0.27 (95% CI: 0.05, 0.78) year 4. Incidence/100 PY of other malignancies for ustekinumab 45 mg & 90 mg was 0.63 (95% CI: 0.37, 1.00) and 0.61 (95% CI: 0.39, 0.91), respectively; 42 cases were observed and included (≥2 cases) prostate, breast, melanoma in situ, colorectal, renal, head and neck, bladder, and leukemia. Respective rates of other malignancies were 0.39 (95% CI: 0.19, 0.72) year 1, 0.97 (95%CI: 0.56, 1.58) year 2, 0.34 (95% CI: 0.11, 0.79) year 3, 0.97 (95%CI: 0.49, 1.74) year 4. Rate of other malignancies reported in ustekinumab-treated patients was comparable to that expected in the general population (SIR = 1.06 [95% CI: 0.76, 1.43]).

Conclusions: NMSC rates and other malignancies remained stable compared with earlier analyses without an apparent dose effect. The observed malignancy rate was consistent with the expected rate in the general US population in the SEER database. Analyses with 5 years of follow-up are planned to continue examining the impact of IL-12/23 blockade on malignancy rates.

Update on cardiovascular safety of Ustekinumab in pooled phase 2 and 3 psoriasis clinical trials with up to 4 years of follow-up

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Objective: To report the rates of cardiovascular adverse events in the ustekinumab clinical trial program based on the 2010 updated safety analysis.

Methods: Cardiovascular event rates were evaluated in Phase 2/3 trials [PHOENIX 1 (3 years, n = 766), PHOENIX 2 (4 years, n = 1230), ACCEPT (1 year, n = 903), Phase 2 (T04, 36 weeks, n = 320)]; studies are placebo-controlled except ACCEPT (etanercept-controlled). Cumulative rates of unadjudicated major cardiovascular adverse events (MACE), including cardiovascular death, non-fatal MI, or stroke, were evaluated by dose and over time with up to 4 years of follow-up. MI/stroke rates were compared with rates in a

general US population based on Framingham Heart Study, a UK psoriasis population in the General Practice Research Database (GPRD), adjusted for selected baseline cardiovascular risk factors, and in the infliximab psoriasis clinical program.

Results: 3117 patients (6791 patient-years of follow-up [PY]), with 1650 patients, 1129 patients, and 619 patients were treated > 2, > 3, and > 4 years, respectively. MACE rates/100 PY (95% CI) for ustekinumab 45 mg & 90 mg groups were 0.42 (0.22, 0.73) and 0.36 (0.19, 0.60), respectively. Event rates for ustekinumab-treated groups combined were: 0.47 (95% CI: 0.24, 0.82), 0.24 (95% CI: 0.07, 0.62), 0.34 (0.11, 0.79) and 0.44 (0.14, 1.03) for years 1, 2, 3, and 4, respectively. MI and stroke events for ustekinumab-treated group was less than expected in the Framingham Study (observed = 24, expected = 47, SIR = 0.51 [0.33–0.76]) and in the GPRD population (observed = 24, expected = 70, SIR = 0.34 [0.22–0.51]). MACE rate was comparable to the infliximab psoriasis program (0.45/100 PY reported for 1373 infliximab-treated patients with 1106 PY follow-up).

Conclusion: Rates of MACE events remain low and stable without an observed dose response with up to 4 years of follow-up. Observed rates were consistent with or lower than expected in other populations. The impact of ustekinumab on cardiovascular risk will continue to be monitored in ongoing clinical trials and observational registries.

Infection rates in the Ustekinumab psoriasis clinical trial program: Update with up to 4 years of follow-up

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Objective: Our objective is to describe the infections observed in Phase 2 and 3 psoriasis clinical trials with up to 4 years of ustekinumab treatment.

Methods: Infections were evaluated in data pooled across ustekinumab psoriasis trials [Phase 2 trial (n = 320), PHOENIX 1 (n = 766), PHOENIX 2 (n = 1230), and ACCEPT (n = 903)]. 3117 patients (6791 patient-years of follow-up [PY]) were treated with ustekinumab; 1650 patients were treated for > 2 years, 1129 patients were treated for > 3 years, and 619 patients were treated for > 4 years.

Results: Overall infections per 100-PY were 101.66 and 95.53 in ustekinumab 45 mg & 90 mg groups, respectively. Of infections requiring treatment (PHOENIX 1&2), 97.0% (743/766) and 95.8% (901/940) were mild-moderate in the ustekinumab 45 mg & 90 mg groups, respectively; median duration of treated infections was 12.0 days (IQ range: 8.0, 20.0). Serious infections (SI) per 100-PY (95% CI) for the ustekinumab 45 mg & 90 mg groups were 0.80 (0.51, 1.21) and 1.32 (0.99, 1.73), respectively. Rates of SI in ustekinumab-treated patients per 100-PY were 1.37 (95% CI: 0.96, 1.91), 1.03 (95% CI: 0.60, 1.65), 0.68 (95% CI: 0.32, 1.24), 1.15 (95% CI: 0.61, 1.97) in years 1, 2, 3, & 4, respectively. No patterns of infections emerged; majority of SI were caused by common pathogens. Most common SI (> 3 patients) were cellulitis (1.7%), diverticulitis (0.3%), pneumonia (0.2%), osteomyelitis (0.1%), and sepsis (0.1%).One potential opportunistic infection of disseminated, cutaneous herpes zoster was observed early in PHOENIX 1. No cases of TB, atypical mycobacterial disease, systemic fungal infections, or salmonellosis were reported.

Conclusions: Overall rates of infections remained stable with up to 4 years of follow-up and did not appear to increase with cumulative exposure. No new patterns of SIs have been observed with increased exposure duration.

Ocular involvement in epidermolysis bullosa

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Epidermolysis bullosa is an inherited mechanobullous group of diseases commonly resulting in both skin and mucosal complications. This study assesses and describes the number and types of ocular manifestations in an Australian cohort of inherited EB patients.

An extensive literature search of case series and reports describing ocular complications in inherited EB patients was performed. An Ocular Severity Scoring System (OSSS) based on the ocular complications reported was subsequently created. An Australian cohort of patients with various forms of EB was examined by an ophthalmologist, with the OSSS used to document the extent and severity of ocular complications.

A detailed history was recorded with documentation and grading of symptoms and signs. Particular emphasis was placed on external eye and ocular surface findings, including recording of an Ocular Surface Disease Index (OSDI) score and Schirmer's test. Parameters assessed included

visual acuity, ocular motility, ocular lens position and opacity as well as fundoscopy. Findings were documented by corneal topography, anterior segment photography and posterior segment optical coherence tomography.

Numerous ocular and adnexal complications of varying duration and severity are reported in Epidermolysis Bullosa (EB)[1]. These are most commonly seen in the junctional and recessive dystrophic forms of EB[2].

The results obtained will be used to refine and validate the OSSS as a measuring tool of ocular complications in these diseases for future use by dermatologists and ophthalmologists.

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Ocular involvement in autoimmune blistering skin diseases

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Autoimmune Blistering Skin Diseases (AIBD) is a term used to describe a heterogeneous group of cutaneous and mucosal diseases with significant morbidity and mortality. A range of ocular complications can occur in patients with AIBD, due to the underlying blistering disease or as side effects of the medications used to treat these diseases.

This study sought to quantify and describe the ocular manifestations in an Australian cohort of AIBD patients. An extensive literature search of past case series and reports describing ocular complications in AIBD was first performed. Based on these findings, an Ocular Severity Scoring System (OSSS) was created. An Australian cohort of patients with various types of AIBD was then examined by an ophthalmologist, with the OSSS used to document the extent and severity of ocular complications. A detailed history was recorded with documentation and grading of symptoms and signs. Particular emphasis was placed on external eye and ocular surface findings, including recording of an Ocular Surface Disease Index (OSDI) score and Schirmer's test. Parameters assessed included visual acuity, ocular motility, ocular lens position and opacity as well as fundoscopy. Findings were documented by corneal topography, anterior segment photography and posterior segment optical coherence tomography.

Ocular complications are most commonly seen in Mucous Membrane Pemphigoid[1], Linear Immunoglobulin A (IgA) Bullous Dermatosis, Epidermolysis Bullosa Acquisita, and the Paraneoplastic variant of Pemphigus. Ocular complications are rarely reported in other types of AIBD.

This cross-sectional observational study will quantify the common ocular complications in patients with AIBD and data will be used to refine and validate the OSSS as a measuring tool of ocular complications in these diseases for future use by dermatologists and ophthalmologists.

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Dermatitis herpetiformis and revisiting its association with gluten sensitive enteropathy

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Dermatitis herpetiformis (DH), an autoimmune blistering disorder is generally considered a cutaneous manifestation of a gluten-sensitive enteropathy (GSE). We aim to present the typical features, diagnostic criteria and introduce a case involving a 41 year old male, with a widespread cutaneous rash typical of DH and confirmatory histopathological findings, with no positive systemic serology nor abnormal findings on bowel biopsy. There remains significant controversy regarding the exact antigenic target implicated in DH, which will be discussed. Despite a gluten free diet, his cutaneous symptoms of rash and blistering still persist. Review of the literature demonstrates that there is a small group of DH patients who have structurally and functionally normal small bowel. Our patient may be part of this select group, where there is a different antigenic process occurring, with the absence of associated bowel enteropathy. The benefit of conventional therapies such as Dapsone and systemic treatments remains unanswered.

A successful 2011 NHMRC grant application – A story of partnerships

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2003 Whitfeld 2nd Fiji Dermatology Meeting: A statement by Fijian doctors and nurses that scabies was their biggest health issue, due to its prevalence and its serious complications, including sepsis and glomerulonephritis. Mass Drug administration with ivermectin was discussed. Subsequent meeting with Koroivueta.

2004 Whitfeld: A community based trial comparing Benzyl benzoate and ivermectin was undertaken which showed a scabies prevalence rate of 28% and 38%, and that Ivermectin and benzyl benzoate appeared equally effective in treating scabies.

2006 Steer: A survey of 3000 school children and 400 infants survey showed that 36% of school children and 13% of infants had impetigo, and it was associated with scabies in 33% and 73% of cases, respectively and that 52% of child health visits in Fiji were for impetigo scabies or both.

2007 Steer: A prospective longitudinal study of scabies and impetigo in 450 Fijian school children over a period of 10 months documented the incidence of scabies at 51 cases per 100 child-years.

2007 Whitfeld: A cross-sectional study of over 13,000 participants in 96 sites to assess the prevalence of scabies and skin sores in Fiji showed an overall prevalence of scabies of 23% (37% and 51% in children aged 0–3 years and 4–7 years.

2007 Whitfeld, Steer and **Koroivueta** meet, realize they have communal goals of scabies control for Fiji.

2009: A trial of Permethrin vs ivermectin in an isolated community setting is proposed.

2010: With Whitfeld at the lead, NHMRC grant unsuccessful.

2011 With Steer at the lead, $685,000 granted by the NHMRC. 7 Chief Investigators and 5 associate investigators from Fiji and Australia.

2012–2014: Study to be undertaken, already underway.

Comparative effectiveness of Adalimumab and Etanercept in patients with chronic plaque psoriasis

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Introduction: Anti-TNF therapy has revolutionised the treatment of chronic plaque psoriasis over the past 6 years. Two of the most commonly used anti-TNF therapies on the PBS are adalimumab and etanercept. Both drugs have demonstrated superiority over placebo for the reduction of psoriasis symptoms in randomised trials. To date, no randomised, head-to-head clinical trial has compared these two therapies. The goal of the current study is to perform an indirect comparison between adalimumab and etanercept for the treatment of moderate to severe psoriasis in an Australian setting.

Method: Two methodologies were used: the Bucher[1] methodology and a method of adjusting average patient characteristics in trials with IPD to match those reported for trials without IPD. A literature review was performed to identify relevant studies. The results of these studies were meta-analysed and compared in an indirect comparison using the methods described by Bucher[1]. IPD from trials of adalimumab were re-weighted to match the average baseline characteristics reported for a trial of etanercept based on methodologies described by Signorovitch[2].

Results: The indirect comparison based on the Bucher methodology demonstrated that patients treated with adalimumab were more likely to have a PASI 75 response at week 12 compared with patients treated with etanercept (OR: 2.5, 95% CI < 1.2–5.2). This result was supported by the IPD analysis which found that after adjusting for relevant patient characteristics, 67% of patients treated with adalimumab achieved PASI 75 response compared with 34% of patients treated with etanercept ($p < 0.001$). Both analyses demonstrated that treatment with adalimumab was significantly superior compared with etanercept at reducing psoriasis symptoms.

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Subjects with psoriatic arthritis have worse quality of life and greater quality-of-life improvement on Etanercept therapy than subjects with psoriasis alone: The PRISTINE trial

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Objective: To compare quality of life (QoL) and work impairment in subjects with psoriatic arthritis (PsA) versus psoriasis alone during etanercept (ETN) treatment.

Methods: Adult subjects with moderate-to-severe plaque psoriasis were randomized to ETN 50 mg BIW or ETN 50 mg QW for 12 weeks, after which all subjects received ETN 50 mg QW through week 24. Evaluations included PASI, utility (EQ-5D), and work impairment (WPAI). EQ-5D utility is scored from 0 to 1 (1 = perfect health); work impairment (lost work productivity) is scored from 0 to 100% (0 = no impairment due to disease). These analyses pooled subjects across arms.

Results: Of 270 subjects analyzed, 84 (31%) had PsA. Baseline PASI was similar in the PsA and psoriasis-only groups (21.4 vs. 21.1, $p = 0.815$), but PsA subjects had worse EQ-5D utility (0.55 vs. 0.70, $p < 0.001$) and work impairment (35.8% vs. 24.8%, $p = 0.022$). At week 24, improvements were observed in all three measures in both groups ($p < 0.001$). Subjects with PsA achieved greater improvement than others in EQ-5D utility ($p = 0.021$), but not work impairment ($p = 0.073$) or PASI ($p = 0.632$). At week 24, PASI 75 was achieved in 69.1% of subjects with and 68.8% without PsA, mean EQ-5D utility was 0.79 vs. 0.85, and work impairment was 14.5% in both groups; between-group differences were significant only for EQ-5D ($p = 0.036$).

Conclusions: At baseline, subjects with PsA had worse QoL and work impairment than subjects with psoriasis alone. After 24 weeks of etanercept, both groups improved, but PsA subjects' QoL improved more. Both groups saw substantial PASI improvement.

Dermatological follow up of malignant melanoma is not skin deep: A cardiac presentation of metastatic melanoma

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Introduction: Metastatic melanoma is notorious for its aggressive behaviour and consequent extremely poor prognosis. It has the highest rate of cardiac involvement of any malignancy with a wide array of clinical presentations ranging from non-specific symptoms to cardiac tamponade and sudden cardiac death. We report a case of metastatic melanoma diagnosed clinically during routine dermatology follow up.

Case presentation: A 49 year old man with previously resected stage II malignant melanomas in 2002 and 2008 was urgently referred from dermatology clinic for evaluation of symptoms of chest pain, progressive shortness of breath and diaphoresis. Physical findings were suggestive of cardiac tamponade. Cardiology review and echocardiography confirmed a pericardial effusion with tamponade physiology. Urgent paracentesis was performed for diagnostic and therapeutic purposes. Though pericardial fluid cytology was negative, CT and MR imaging confirmed an invasive cardiac mass and widespread metastatic disease. Despite four cycles of dacarbazine, our patient passed away five months later.

Conclusion: Regular dermatological follow up of patients with previously resected melanoma is an essential component of long term management. Dermatologists should have a high index of suspicion for metastatic disease when their patients complain of cardiac symptoms.

Cutaneous reaction to Varenicline Tartrate (Champix): A rare but serious complication

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Introduction: Varenicline tartrate (Champix) is a partial agonist at α4 ß2 neuronal nicotinic acetylcholine receptors. It binds with high affinity and selectivity to produce an effect adequate to alleviate symptoms of craving and withdrawal, while concurrently resulting in blockade of the rewarding and reinforcing effects of smoking by preventing nicotine binding to α4 ß2 receptors. Cutaneous drug eruptions are a known but rare complication of Varenicline. We report the first such case in the Asia-Pacific region.

Case presentation: A 42-year-old male presented with a three week history of generalised cutaneous eruptions and

pruritus beginning eight days post initiation of Varenicline tartrate. Doses were titrated in the recommended fashion from 0.5 mg daily to 1 mg BD by day 8. Initial treatment by his General Practitioner included cessation of Varenicline, topical triamcinolone acetonide cream (0.02%) and regular white soft paraffin. A punch biopsy (2 mm) was taken which demonstrated the presence of numerous interstitial eosinophils, a result consistent with an urticarial drug reaction.

Despite four days of topical treatment his cutaneous reaction progressed to a diffuse, erythematous, macular, symmetrical eruption covering 80% of his torso while sparing the head, palmar and plantar surfaces. Following dermatology consultation, IV hydrocortisone 200 mg stat, promethazine 25 mg daily and betamethasone dipropionate (0.05%) ointment BD was prescribed with good immediate response. Within four weeks there was almost complete resolution.

Conclusion: Cutaneous drug eruptions are a rare but important side-effect of the commonly prescribed smoking cessation medication Varenicline tartare.

Successful treatment of female-pattern hair loss with spironolactone in a 9-year-old girl

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A 9-year-old prepubertal girl with female pattern hair loss treated with spironolactone 100 mg orally per day had objective improvement demonstrated by regrowth observed clinically and on comparison of pre- and post-treatment stereotactic scalp photographs taken 6 months apart.

Incontinentia pigmenti – A non fatal case in a male infant

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Incontinentia Pigmenti is a rare X- linked dominant genetic condition characterised initially by the distinctive progressive cutaneous changes in the newborn and early infancy period. The importance of early detection is highlighted by its neurologic, ophthalmologic and dental associations[1]: prompt multidisciplinary approach is essential to ensure optimal care. In general, this condition is fatal in males and majority die in utero. We present a case of a 3-month old male infant referred with dry skin. When first seen he had marbled hyperpigmentation and hypopigmentation in a Blaschkoid distribution on his trunk and limbs. These corresponded to areas of previous blistering. His general neurological and ophthalmologic development has been uneventful. There was no family history of Incontinentia pigmenti. Genetic testings performed were suggestive of post-zygotic mutation or somatic mosaicism which likely are the reason for survival in this case and other rare reported male survivors[2]. Continuous close monitoring will be needed for late development of extracutaneous manifestations and further genetic testing in the future to determine the index case's likelihood of transmitting this condition.

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The rapid onset of multiple squamous cell carcinomas in two patients commenced on Ustekinumab as treatment of psoriasis

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We report the cases of two patients who developed multiple cutaneous squamous cell carcinomas (SCCs) after commencement of ustekinumab, as treatment of moderate to severe plaque type psoriasis. Ustekinumab represents a human monoclonal antibody with a novel mechanism, selectively targeting the shared p40 subunit of interleukin-12 (IL-12) and interleukin-23 (IL-23). Its efficacy has been well documented in three large phase III trials (PHOENIX I, PHEONIX 2, ACCEPT[1]). Safety data on this newer biological agent continues to grow. To date, no link between ustekinumab and cutaneous carcinogenesis has been demonstrated; and to our knowledge, this series is the first of its kind. Importantly, both these patients had multiple independent risk factors for developing non-melanoma skin cancers (NMSC); however the specific time correlation with the administration of ustekinumab is of note. Our report suggests that ustekinumab *may* promote cutaneous carcinogenesis in predisposed individuals.

Reference

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A review of the osteoporosis profile among epidermolysis bullosa patients

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Of the various extracutaneous manifestation of Epidermolysis Bullosa (EB), bone health status needs more investigation. Severe types of EB have been reported to have bone problems, mainly osteopaenia, osteoporosis, or even fractures mainly due to reduced mobility, impaired nutritional intake, as well as hormonal factors and chronic inflammation. This paper looked at the incidence and severity of the bone health status among 9 adult EB patients (both recessive dystrophic EB and junctional EB). We reviewed their Dual Energy Xray Absorptiometry (DEXA) scan reports and correlated this with their serum bone marker levels (calcium, phosphate, alkaline phosphatase, parathyroid hormone, and Vitamin D levels). Results showed that 7/9 had persistent osteoporosis, 1/9 had osteopaenia, and 1/9 never had a DEXA scan done prior to transition to the adult EB centre. Most of them presented with fluctuating Vitamin D levels and needed intramuscular injection of high dose Vitamin D. One out of 9 had elevated PTH levels, and also had chronic renal impairment. One out of the 9 patients had a history of trochanteric fracture, another had a spinal stress fracture, and another had avascular necroses. All of these patients have been on Calcium and Vitamin D tablets, female patients were put on a contraceptive pill for bone protection purposes, while 2 patients had bisphosphonate treatment (Risedronate & Pamidronate). This paper supplements the limited literature on bone health status in patients with EB.

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