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Sponsored Symposium: Acne

Hyperandrogenism made easy

W. Inder
St Vincent’s Hospital, Melbourne and University of Melbourne, Melbourne, Victoria

The presentation of a female patient to a dermatologist with acne and/or hirsutism may be the result of a hyperandrogenic state. Therefore it is important to recognise potential features of an underlying endocrine disorder, know what baseline investigations to perform and which patients to refer for further evaluation.

30–40% of women presenting with acne, and 70% with hirsutism have the polycystic ovary syndrome (PCOS) which is the commonest hyperandrogenic condition. The diagnostic criteria include two out of three of a) menstrual disturbance, b) clinical or biochemical hyperandrogenism and c) polycystic ovaries on ultrasound. Cushing’s syndrome is rare and specific clinical signs include thinning of the skin, spontaneous bruising and proximal myopathy. Acromegaly is associated with thickening of the skin, enlarged hands and feet and increased sweating. Androgen secreting tumours result in virilization and generally have a rapid onset with more severe hirsutism. Deepening of the voice and clitoral enlargement are suggestive clinical features.

All patients presenting with acne and/or hirsutism should have a careful menstrual history taken. Baseline investigations should include FSH, LH, estradiol, prolactin, testosterone, sex hormone binding globulin (SHBG) and thyroid function. A total testosterone >5 nmol/L may indicate an androgen secreting tumour, although levels of this magnitude may be seen in PCOS.

Indications for referral to an endocrinologist include presence of menstrual disturbance, severe hirsutism ± testosterone >5 nmol/L, suspected Cushing’s or acromegaly. Patients with acne who have regular periods, no other abnormal clinical features and normal or only mildly elevated testosterone levels do not require referral.

Childhood acne

G. Fischer
Sydney, New South Wales

Acne in children, as opposed to adolescents, falls into three groups:

- Neonatal and infantile acne (onset in first year of life)
- Early childhood acne (onset from 1 to 6 years)
- Prepubertal acne (6 years to puberty)
Neonatal and infantile acne is usually a disease of endocrinologically normal male babies which has a genetic basis. It ranges from mild comedonal acne to severe nodulocystic acne justifying isotretinoin treatment. It usually resolves by age 2 but may persist until 5. It is rarely necessary to investigate such children although the more severe cases justify it particularly if there are other signs of virilisation.

Acne in children aged 1 to 5 years is very uncommon and should always be investigated. Increased levels of androgen of either adrenal origin in girls or testicular origin in boys may be the cause. Endocrine abnormalities include congenital adrenal hyperplasia, Cushing’s Disease, 21-hydroxylase deficiency, precocious puberty, androgen secreting tumours, some medications and premature adrenarche. Despite this formidable list of serious diseases, a significant number of such children in fact have no abnormalities on investigation.

Prepubertal acne is usually associated with adrenarche which may occur as early as 6 in girls and 8 in boys. Most children in this group are systemically well and the only abnormality found is increased DHEAS.

Screening tests include DHEAS, total and free testosterone, 17-hydroxyprogesterone, LH and FSH, prolactin and bone age measurement. If any of these tests are abnormal the child should be referred to an endocrinologist.

Signs of early puberty and/or virilisation include body hair, abnormal growth, genital and breast development and body odour.

In all age groups there is a strong hereditary aetiology.

The differential diagnosis includes childhood rosacea, periorificial dermatitis, angiofibromas and adnexal tumours, flat warts, molluscum conagiosum, milia, miliaria, pityrosporum and demodex folliculitis and keratosis pilaris.

Treatments available are similar to those used adolescents, including isotretinoin but with the exception of tetracyclines prior to the age of 8.

Ocular side-effects of oral retinoids
C. Petsoglou
Save Sight Institute and University of Sydney, Sydney, New South Wales

Vitamin A is critical for normal visual function with its role in the visual cycle and epithelial differentiation. Oral retinoids as a result have the potential of significant visual side-effects including dry eye syndrome, corneal changes, cataract, night blindness and idiopathic intracranial hypertension. The symptoms of these side effects will be discussed including recommendations for referral and management.
Non-melanoma Skin Cancer: Focus on Difficult Lesions

The life saving benefits of adjuvant radiotherapy in patients with high-risk cutaneous squamous cell carcinoma and Merkel cell carcinoma

M. Veness
Department of Radiation Oncology, University of Sydney, Westmead Hospital, New South Wales

Non-melanoma skin cancers (NMSC) occur at an epidemic rate in Australia. A subset of patients experience morbidity and death as a consequence of NMSC. These patients may have high-risk cutaneous squamous cell carcinoma (cSCC) that develop metastases to regional lymph nodes, also select patients with cutaneous perineural invasion (PNI) and includes patients with Merkel cell carcinoma (MCC). Adjuvant radiotherapy has an important role in decreasing relapse in patients with unfavourable NMSC. The parotid and upper cervical nodes are common sites for the development of metastases arising from ear, scalp, temple/forehead or scalp cSCC. The mortality and morbidity associated with high-risk cSCC is usually a consequence of uncontrolled metastatic nodal disease. Any improvement in locoregional control is likely to improve survival. The efficacy of adjuvant radiotherapy has previously been questioned based on weak evidence in the early literature. However, recent evidence from larger studies (especially from Westmead Hospital, Sydney) has strengthened the case for adjuvant radiotherapy as a means to improve locoregional control and survival. Recent evidence also supports the role of adjuvant radiotherapy in patients with MCC and PNI in improving patient outcome. The aim of this presentation is to discuss the evidence to support the recommendation for adjuvant radiotherapy in patients with potentially life threatening NMSC.

References

Registars’ Forum

Research Reports

Familial aggregation of basal cell carcinoma of the skin is not caused by mutations in the patched gene
S.E. de Zwaan, G.J. Mann
Westmead Millennium Institute, Westmead, NSW

Introduction: Basal cell carcinoma (BCC) is the commonest cancer in European-derived populations and Australia
has the highest recorded incidence in the world. The incidence of this cancer has been increasing internationally over the last two decades. The patched gene \((PTCH)\) is responsible for Gorlin syndrome and is an obvious candidate for population genetic susceptibility to BCC.

Method: 56 individuals who developed BCC under the age of 40 in the year 2000 were recruited from the Skin and Cancer Foundation of Australia, along with 212 of their first degree relatives. Cancer histories were obtained and verified from all subjects. These case-control pairs were examined for evidence of phenotypic associations with skin cancer, and these were as previously reported Peripheral blood from probands and sibling controls was examined for mutations \(PTCH\).

Results: First-degree relatives of people with early-onset BCC had an increased risk of both BCC and SCC, with the strongest increases for BCC in brothers (RR 5.2, \(p < 0.05\)) and SCC in sisters (RR 5.5, \(p < 0.05\)). However nearly one fifth of families had aggregation of BCC to the exclusion of SCC or malignant melanoma, suggesting that BCC-specific risk factors are also likely to be at work. No germline mutations were found in the \(PTCH\) gene, and there was no evidence for association of early onset BCC with any of the common SNPs in this gene, which was excluded as a common cause of this increased susceptibility to early onset BCC, even in the presence of a strong family history of BCC.

Transient bullous dermolysis of the newborn – 2 novel amino acid substitutions in \(\text{COL7A1}\)

S.W. Lim¹, J. Su¹, D. Orchard¹, G. Varigos¹, D. Sawamura², W. Nishie¹, H. Shimizu³, D.F. Murrell⁴
¹Department of Dermatology, Royal Children’s Hospital, Victoria
²Department of Dermatology, Hokkaido University Graduate School of Medicine, Sapporo, Japan
³Department of Dermatology, St. George Hospital, Sydney, New South Wales

Transient bullous dermolysis of the newborn (TBDN) is thought to be a rare subtype of dystrophic epidermolysis bullosa (DEB) with a favourable prognosis.¹ There is abnormal intra-epidermal accumulation of type VII collagen which results in poorly constructed anchoring fibrils and a sub-lamina densa plane of blister formation.¹ ² Immunodermatologic studies and electron microscopy are important for the diagnosis of this condition.¹ ² A boy from a non-consanguineous Caucasian family delivered at term vaginally developed widespread blistering. Biopsy for immunofluorescence mapping showed intraepidermal collagen VII staining in all suprabasal layers and a subepidermal clef, consistent with TBDN. By 6 months of age only localized blistering in the hands and milia remain. Neither parent had a history of blistering nor dystrophic toenails. \(\text{COL7A1}\) mutation studies revealed two novel paternal missense amino acid substitutions: Ex5/V198I (c.592G>A) and Ex 54/G1673R (c.5017G>A). The father has abnormal
stretcheding of scars but no stigmata of dominant DEB. This may represent variable gene expression. Polymorphism studies in Australia amongst Caucasians currently being undertaken should reveal which of the two mutations is likely to be pathogenic, predicted to be the glycine substitution.

References

A retrospective review of the accuracy of initial incisional, punch and shave biopsy, in the definitive treatment of melanoma
R. Sillar1, N. Macpherson2, J. Sippe3, S. Di Lernia4
1Department of Surgery, John Hunter Hospital, Newcastle, New South Wales
2Department of Dermatology, Royal Newcastle Centre, Newcastle, New South Wales

Incision, punch and shave biopsies are commonly used in the diagnosis of melanoma. If subsequent treatment is initiated on the basis of an inaccurate initial biopsy, delivery of optimal care may be jeopardised. The aim of the study was to review the accuracy of non-excisional biopsies and their potential to adversely affect the delivery of subsequent care; should patients undergo excision biopsy with a narrow margin prior to the initiation of definitive surgical care? 151 patients who presented to the Newcastle Melanoma Unit with biopsy proven melanoma, between January 2000 and December 2004, were included in the review. Breslow and Clark levels were obtained for the biopsy and then compared with the subsequent wide excision. It was shown that shave biopsies were better than incision and punch biopsies at predicting both the depth of a melanoma and the Clark level. Shave biopsies were more accurate than incision and punch biopsies at predicting the depth of a melanoma for each depth category (<1 mm, 1–2 mm, >2 mm). An accurate biopsy on the initial clinical finding melanoma confirms diagnosis, but also gives some level of confidence in the subsequent size of wide excision and possible Sentinel Node biopsy.

Infliximab rapidly improves severe, treatment-resistant psoriasis
A. Braue1, P. Foley1,2
1St Vincent’s Hospital, Melbourne, Victoria
2University of Melbourne, Victoria

Psoriasis can be challenging to treat and can have a significant impact on quality of life. Infliximab, an anti-tumour
necrosis factor chimeric monoclonal antibody, has been shown to be effective in the treatment of moderate to severe plaque psoriasis. Twenty-three patients with severe recalcitrant psoriasis (20 male, 3 female, average age 45) were treated with Infliximab at St Vincent’s Hospital Melbourne. All had previously failed other treatments, including systemic agents, phototherapy and alternative biologics.

A dose of 5 mg/kg infliximab was given intravenously at weeks 0, 2, 6, and every 8 weeks thereafter. Mean PASI at commencement was 27.2 (range 15.4–59.3) and by week 2, mean PASI had improved to 13.4 (range 7–24.6). At week 10, 20 patients (87%) had achieved PASI-75 and the remaining three patients (13%) had achieved PASI-50 (some of these were achieved earlier as week 6 observations were carried forward for six patients where no week 10 PASI was available). Infliximab was very well tolerated and to date, no patient at St Vincent’s has been withdrawn from treatment.

Our findings confirm the efficacy and reported rapid onset of Infliximab, with mean PASI halving over the first two weeks of treatment. Where data from follow-up assessments are available, response to treatment has been sustained for many months with continued maintenance therapy.

Skin diseases in first two years of life for children in a remote Indigenous community in East Arnhem land

E. McMeniman1, L. Holden2, T. Kearns1, D.B. Clucas3, J.R. Carapetis4, B.J. Currie1, C. Connors1, L. Wong6, R.M. Andrews3

1Department of Dermatology, Mater Misericordiae Hospital, Brisbane, Queensland
2School of Medicine, Griffith University, Brisbane, Queensland
3Menzies School of Health Research, Charles Darwin University, Darwin, Northern Territory
4Department of Paediatrics, The University of Melbourne, Victoria
5Department of Dermatology, Children’s Hospital, Westmead, New South Wales

Introduction: Skin infections have been associated with high rates of renal disease in Indigenous Australians and have been hypothesised as contributing to high rates of rheumatic fever and rheumatic heart disease in this population. The successful treatment of scabies infestation and the use of antibiotics to treat streptococcal skin infection are both very important to improving the burden of skin diseases in the Indigenous population.

Methods: A retrospective review of clinic records was conducted in a primary health care (PHC) centre in the remote East Arnhem region of the Northern Territory. This was a component of the East Arnhem Regional Healthy Skin
Project, which aimed to reduce the prevalence of scabies and skin sores and associated chronic diseases in the participating communities. Data were collected from medical records for the first two years of life for 104 children born between 2001–2006. Every presentation to the community health clinic in the first two years of life was recorded including the presentation date, height and weight, reason(s) for presentation, antibiotic use and referrals to hospital.

Results: Overall 73% of children presented to the PHC with scabies in the first two years of life, with 65% having presented with scabies by one year of age. Of all children studied, 84% presented to the PHC with skin sores in the first two years of life, and 80% of them had already presented with skin sores by one year of age. Of children presenting with scabies, 62% also had skin sores at that time. Of children presenting with skin sores, only 64% were prescribed antibiotics.

Conclusion: These data are consistent with the findings from our audits in other East Arnhem communities. Scabies and skin sores remain significant health problems posing a substantial disease burden for infants in the first two years of life. Appropriate prevention and treatment strategies should encompass early infancy to reduce the high burden of infectious diseases in this population.

Topical nicotinamide protects against ultraviolet-induced immunosuppression in humans
G.P. Sivapirabu, E. Yiasemides, G.M. Halliday, D.L. Damian
Department of Dermatology, The University of Sydney at Royal Prince Alfred Hospital, Sydney, New South Wales

The incidence of skin cancer in Australia continues to rise despite the recent public health campaigns to improve photoprotection. Ultraviolet (UV) radiation-induced immunosuppression promotes skin carcinogenesis by inhibiting the immunosurveillance responses against these highly antigenic skin tumours. Agents that prevent this immune suppression may play an important role in photoprotection. Nicotinamide, the amide form of vitamin B3, has been shown to prevent UV-induced immunosuppression and carcinogenesis in murine studies. We recruited healthy Mantoux-positive volunteers to study the effects of nicotinamide on UV-induced suppression of the Mantoux-model of delayed type hypersensitivity (DTH) responses. Five randomised, double-blinded studies using topical 0.2–5% nicotinamide were done with different UV exposure regimes (each n = 16). We examined the effect of nicotinamide on immunosuppression caused by a single exposure to solar-simulated UV (ssUV), or to UVB or UVA, where each irradiation was immediately followed by nicotinamide application. A further study investigated the effects of three consecutive solar-simulated UV exposures followed by nicotinamide each time. In all studies, Mantoux testing was performed at each test site 48 hours after the first
irradiation, and measured 72 hours later. Immunosuppression was calculated as the difference in the Mantoux-induced erythema of irradiated test sites compared to adjacent, unirradiated control sites. Topical nicotinamide provided significant protection against immunosuppression caused by ssUV, and also by its UVB and UVA components. Hence nicotinamide is promising as a future photoprotective agent in the prevention of skin cancer.

**Case Reports**

A case of multiple subcutaneous granuloma annulare in a patient with Crohn’s disease

T.A. Phan1, A. Wegman2

1South Western Sydney Clinical School, University of New South Wales, Kensington, New South Wales
2Prince of Wales Hospital, Randwick, New South Wales

Clinical presentation: A 37 year old woman presented with a progressive 4 year history of asymptomatic subcutaneous nodules over her left olecranon, left knee, left fifth metatarsophalangeal joint and right knee. Three years previously, excision and bursectomy of the left elbow lesion resulted in prompt recurrence of the subcutaneous nodule within 3 months. She has a background history of colonic Crohn’s disease which had been quiescent for the previous 2 years and was taking no regular medications.

Investigations: Xrays of her left elbow and knee, full blood count, urea and electrolytes, liver function tests, inflammatory markers, ANA, rheumatoid factor, serum ACE and chest X-ray were normal.

Histology of the left elbow nodule showed multiple well defined areas of necrobiosis with a granulomatous rim and intervening fibrosis. This stained positive for mucin and was consistent with a diagnosis of subcutaneous granuloma annulare.

Management: She was treated with intralesional corticosteroids to the nodules on her left elbow, left knee and right knee which cause a marked reduction in size of these nodules within 6 weeks.

Discussion: The subcutaneous variant of granuloma annulare is rarely found in adults1. While regression is common in children2, the persistence of these lesions in our adult patient may suggest the contrary. Histological features of subcutaneous granuloma annulare are indistinguishable from the rheumatoid nodule3. In our patient, other alternative diagnoses require consideration such as rheumatoid nodule without rheumatoid arthritis, metastatic Crohn’s disease, tuberculosis and sarcoidosis. Differences in clinical presentation, histology and treatment of subcutaneous granuloma annulare and metastatic Crohn’s disease will be presented.

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References


Cutaneous Mycobacterium chelonae infection
N. Jang, P. Brown
Department of Dermatology, Royal North Shore Hospital, St Leonards, New South Wales

A 53 year old female with a background of IgA deficiency, vitiligo and hypothyroidism presented with a 4 month history of a red and swollen left upper eyelid and the subsequent development of discharging pustules. Histopathological examination revealed granulomatous inflammation and Ziehl-neelsen stain demonstrated acid fast bacilli. Tissue culture confirmed Mycobacterium chelonae infection. She was initially treated with rifampicin, ciprofloxacin, and clarithromycin whilst awaiting sensitivity results. The organism was sensitive to clarithromycin but resistant to both rifampicin and ciprofloxacin. She was continued on clarithromycin, and despite the resistance pattern, ciprofloxacin. She demonstrates continued clinical improvement after 6 months of continuous therapy.

Mycobacterium chelonae is a rapidly growing mycobacterium which is widely distributed in the environment. Cutaneous lesions are variable and include nodules, papules, plaques, abscesses and ulcers. Cutaneous lesions may occur following trauma or surgical procedures.

The organism may also cause soft tissue, bone and pulmonary lesions, as well as disseminated disease. Disseminated disease occurs particularly in the context of immunosuppression.

These infections are easily missed or attributed to other causes. Therefore, a high index of suspicion is imperative for the diagnosis to be made. Response to therapy may be slow and incomplete.

A case of autoimmune progesterone dermatitis
K. Le, G. Wood
Prince of Wales Hospital, Randwick, New South Wales

Autoimmune progesterone dermatitis (APD) is a rare, cyclic eruption that occurs in the luteal phase of the menstrual cycle and during pregnancy.
We present a 34 year old female with a 2 year history of a papulovesicular eruption, initially occurring after her first pregnancy, then recurring with her second pregnancy and premenstrually. The rash spontaneously resolved after several days. Our patient had mild childhood eczema and had been on the progestin oral contraceptive pill Ciproterone acetate until her pregnancy. On examination there were excoriated papules and vesicles on the palms and volar aspect of the forearms bilaterally. The clinical appearance and cyclical nature of the eruption was consistent with a diagnosis of APD.

Skin biopsy showed a sub-acute dermatitis. The detection of autoimmune progesterone antibodies has been reported in the literature [1], however attempts to formulate an assay in our hospital were unsuccessful. Progesterone challenge with a 100 mg progesterone pessary per vaginally (PV) resulted in recurrence of the pruritic eruption in the previous distribution.

APD has variable cutaneous manifestations, including eczematous, urticarial and vesiculobullous forms. These features can be induced by direct challenge with progesterone. The aetiology of the disease has not been determined, however exposure to exogenous progesterone has been hypothesised to be a triggering factor. Treatment primarily involves ovarian suppression, which may be medical or surgical. In self limited disease, observation and symptomatic treatment are reasonable.

Reference

A case of botryomycosis in Ireland
S. Kumar
Brisbane, Queensland

Botryomycosis is an unusual cutaneous infection which can be caused by multiple bacterial organisms. This case was treated topically and responded extremely well to treatment.

Superficial granulomatous pyoderma successfully treated with infliximab
V. Akhras, W. Liu, R. Sarkany, R. Marsden
St George’s Hospital, Tooting, London, United Kingdom

A 71 year old woman presented with a 7 year history of right periorbital and left buttock erythema, erosion and cribriform scarring. This was preceded by a right eye enucleation following retinal detachment, and an attempt to reconstruct the orbit using a fat graft from the left buttock. Treatment with prednisolone, dapsone, cyclosporin, mycophenolate
mofetil, minocycline and intralesional steroids failed to control her disease. Skin biopsy showed superficial three-layered granulomas supporting the diagnosis of superficial granulomatous pyoderma. After commencing on infliximab, her disease went into complete and sustained remission, allowing for surgical excision and flap repair of the periorbital disease and a successful orbital prosthesis insertion.

Pyoderma gangrenosum masquerading as hidradenitis suppurativa
M.R. Lee, A.J. Cooper
Department of Dermatology, Royal North Shore Hospital, St Leonard’s, New South Wales

We present a case of pyoderma gangrenosum masquerading as hidradenitis suppurativa in a 43 year old man. This man had a greater than 20 year history of painful purulent lesions, sinuses with scarring affecting his axillae, groins, natal cleft and buttocks. An initial diagnosis of hidradenitis suppurativa was made. He was treated with oral isotretinoin 40 mg twice daily and erythromycin ethinyl succinate 400 mg twice daily for one year with mild improvement. He subsequently presented to us with additional painful lesions on the left arm and left cheek present for one year, left leg and right wrist and hand present for one month. Histopathology demonstrated ulceration of the epidermis, a dense dermal inflammatory infiltrate consisting of lymphocytes, neutrophils and some eosinophils. A foreign body granuloma was present. No organisms were identified on Ziehl-Nielsen, Fite or PAS stains. Prednisone 35 mg daily was initiated and within days the pain and discharge had subsided. We present an instructive case where hidradenitis suppurativa mimicked pyoderma gangrenosum.

Varicella: Still a killer
A. Sklavos1,2, D. Marriott1, M. Whitfield1,2
1Department of Dermatology, St. Vincent’s Hospital, Sydney, New South Wales
2Skin and Cancer Foundation, Darlinghurst, Sydney, New South Wales
3Department of Infectious Diseases, St. Vincent’s Hospital, Sydney, New South Wales

It has been reported that a significant number of clinicians believe varicella to be a benign self limiting disease, generally of childhood. Australian mortality data however, reveal that since 1980 on average 3.5 deaths per year have been attributed to primary varicella and 11 deaths per year due to varicella zoster.

The early detection of varicella viral infection is critical as antiviral therapy is available and effective in preventing the devastating sequelae that can occur, especially in immuno-compromised individuals.
We present the case of a 65 year old male, immunocompromised due to chronic lymphocytic leukaemia, that illustrates several features of disseminated recurrent varicella, some of which are rare. These included the initial presentation of varicella infection as abdominal pain with the development of SIADH preceding the papulovesicular cutaneous eruption. This presented a diagnostic dilemma, until the rapidly progressing cutaneous eruption made the diagnosis clear.

Other complications of disseminated varicella infection that were encountered included pleural effusions and respiratory failure, hepatitis and disseminated intravascular coagulation, as well as an acute confusional state. His successful management included intravenous acyclovir, zoster glycerin immunoglobulin and hyperimmune gammaglobulin and intensive care support.

It is important to recognize the role that the live attenuated varicella vaccine can have in preventing morbidity and mortality due to this disease.

Successful treatment of lymphomatoid papulosis with photodynamic therapy
M. Rodrigues¹, C. McCormack¹,², L.-M. Yap¹, M. Prince¹,³,⁴, H. Roberts², R. Williams²,³, P. Foley⁴
¹Department of Dermatology, St Vincent’s Health, Fitzroy, Victoria
²Dermatology Service, Peter MacCallum Cancer Centre, East Melbourne, Victoria
³Haematology Service, Division of Haematology and Medical Oncology, Peter MacCallum Cancer Centre, East Melbourne, Victoria
⁴The University of Melbourne, Victoria

A 39-year-old female with histologically-proven lymphomatoid papulosis, resistant to previous conventional management, responded to treatment with photodynamic therapy. Over a three year period, the patient’s larger lesions had proven to be resistant to treatment with topical agents including clobetasol, intralvesional corticosteroids, systemic agents including methotrexate, tetracycline and nicotinamide, and radiotherapy. These lesions underwent treatment with two sessions of methyl aminolevulinate photodynamic therapy (PDT) one week apart. Review six months post-PDT demonstrated complete clinical clearance at all treatment sites.
While photodynamic therapy is now considered a standard non-surgical treatment modality for non-melanoma skin cancers and it has been trialled in a number of non-oncological indications, this is the first time it has been described in the treatment of lymphomatoid papulosis.

Congenital hyperpigmentation, ectrodactyly and cutaneous atrophy
A. Herat1, N. Hashim2, S.K. Jones2
1Greenslopes Private Hospital, Greenslopes, Queensland
2Clatterbridge Hospital, Bebington, Wirral, United Kingdom

A 33 year-old Japanese lady presented in February 2007 with congenital hyperpigmentation of the skin associated with areas of atrophy, a hand deformity and a history of an umbilical hernia at birth. She was otherwise fit and well. There was no family history of any skin disorder or congenital abnormality. At the time of presentation she was 18 weeks pregnant with her first child and concern was raised regarding possible implications for her pregnancy.

On examination, she had streaky hyperpigmentation involving the arms, legs and trunk and areas of atrophy in the flexures, most marked in the axillae. She also has an absent right middle finger (ectrodactyly) causing a 'lobster claw' deformity. There was no cleft lip or palate, and her teeth, hair and nails appeared normal. These features were felt to be consistent with a mild form of focal dermal hypoplasia (FDH) or Goltz syndrome.

She was referred to a clinical geneticist who thought that this lady had a new gene mutation of this X-linked dominant condition with mosaic appearance. The patient and her husband were made aware of an up to 50% risk of transmission to a female pregnancy with variable, but potentially more severe effects. Genetic tests showed highly skewed X-inactivation, which would be consistent with FDH syndrome. However, the chromosome rearrangement or translocation of the X-chromosome associated with this condition was not identified. The value of X-inactivation studies as a possible prenatal diagnostic test is currently being investigated.

An ultrasound scan indicated a female pregnancy with no obvious limb reduction defects or any other abnormalities. The couple took the pragmatic approach of “we just have to wait and see”.

She delivered a normal female baby with no evidence of Goltz syndrome.
Fraxel Sponsored Laser Breakfast Session

Patient satisfaction with Fraxel laser treatment: Results of a practice survey
T. Rutherford, C. Vinciullo, T. Elliott
Perth, Western Australia

Fraxel laser has been used to treat patients in our specialized laser clinic since 2006. A total of 153 patients underwent a course of between one and seven treatments for a range of indications including acne scars, surgical or traumatic scars, photoaging and rhytides, striae atrophicae and melasma.

The study design involved a retrospective chart review, detailed questionnaire and telephone interview in order to determine as the primary outcome measure the patient satisfaction with treatment. The level of satisfaction was correlated with diagnosis, number of treatments and site of treatment. We also enquired about the patient satisfaction with our formulation of topical anaesthesia.

Patient satisfaction with treatment is the key measure of treatment success. Photography is a difficult method of assessing improvement for many of these conditions because of marked variation in picture quality between episodes despite all efforts to standardise procedures. Profilometry is an impractical procedure for routine use and physician assessment does not always correlate with patient satisfaction.

Patient comments were sought in the questionnaire and provide further insights into the Fraxel laser experience and how improvements can be made.

Fractional ablative erbium laser: A personal series
A. Lim
Urepublic Cosmetic Skin and Laser Clinic, Sydney, New South Wales

Fractional lasers such as the 1550 non-ablative Erbium (Fraxel) have become an established tool for treating acne scars, fine wrinkles and dyschromias. Fractional ablative 2940 Erbium (Profractional) has recently been introduced as an alternative to the non-ablative 1550 Erbium. Both devices target micro-columns of tissue ranging 250–400 microns in diameter, with variable depth (up to 1.5 mm) and density (up to 60% skin coverage).

The fractional ablative Erbium shows promise in the treatment of acne scars, surgical/traumatic scars, fine wrinkling and refractory skin pigmentation.

Acne scars in particular, can be effectively treated with fractional ablative erbium, with the method of focal drilling
(>400 microns) for individual scars, followed by a superficial background drill (<200 microns) for field blending.

A photographic case series will be presented to illustrate the methods, potential indications and special precautions of the fractional ablative Erbium laser.

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### Keynote Lectures: What’s New?

**Haemangiomas**

*L. Frieden*

*University of California, San Francisco, United States of America*

Infantile haemangiomas are among the most common birthmarks, yet for decades, virtually no research was performed regarding their etiology, pathogenesis, risk of complications, or treatments. Fortunately all that has changed. The last decade has been a time of real advances in our understanding of this common condition. While many questions remain, a picture is emerging of the relationship of haemangiomas to errors in neural crest development, the cells of origin, and the role of hypoxia in inducing haemangioma growth. On the clinical side, research has given us a better appreciation of which haemangiomas to worry about, when to worry, and which management options are best suited to which haemangiomas.

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### Paediatric Dermatology

**Neonatal dermatology**

*L. Frieden*

*University of California, San Francisco, United States of America*

The skin of newborns present unique challenges for dermatologists. The immature skin of premature infants can result in numerous diseases and disease manifestations not seen in term infants or older children. Even in term infants a number of conditions have unique presentations. Consultant dermatologists must be aware of which skin eruptions are innocuous and which are a grave threat. They must also understand how behave in alien environment of the Neonatal Intensive Care Unit.

**Variable expression of incontinentia pigmenti in 60 affected individuals**

*O. Wargon*

*Sydney, New South Wales*

Retrospective series of 60 females with Incontinentia Pigmenti (IP) including 30 secondary cases (female relatives of probands). Cases were reviewed and comparison was made with other series to more accurately estimate the burden of disease in IP. The frequency of the first three cutaneous
stages of IP, were comparable with previous studies. However no serious neurologic complications were found amongst the secondary cases but all displayed stage IV pale anhidrotic lines on their posterior calves. This important clinical feature has been under recognised. Hence mildly affected cases are often undiagnosed and under represented in case series which have had a bias to the paediatric probands. This has lead to higher estimates of neurologic involvement. With the availability of genetic testing it is now feasible to confirm variability of the phenotype and the risk of complications of IP.

References


Atopic dermatitis in children: When topical therapy fails . . .
A. Halbert
Perth, Western Australia

Severe atopic dermatitis in childhood has a profoundly deleterious impact on quality of life, not only for the affected child but for the entire family. While most children respond to avoidance of obvious aggravating factors, a moisturizing regimen and appropriate use of topical corticosteroids and/or topical calcineurin inhibitors, a small percentage continue to have intractable itch and inflammation. In this presentation, an approach is given to managing this difficult clinical scenario. This will cover the assessment of obscure aggravating factors, management of non-compliance, phototherapy and the use of oral immunosuppressive therapy in children.

Naevoid and segmental birthmarks: What we know and what we don’t know
J. Frieden
University of California, San Francisco, United States of America

The concept of genomic and somatic mosaicism is central in our understanding of many of the conditions we see, but the nomenclature for many birthmarks, particularly those
which do NOT follow the lines of Blaschko remains confusing. The concept of ‘twin spotting’ has been used as an explanation for the concurrence of more than one type of birthmark and is accepted by many as fact rather than hypothesis. Several conditions including the concurrence of Congenital Melanocytic Nevi and Hemangiomas, Segmental Pigmentation Disorders, and Phakomatosis pigmentovascularis will be used as illustrations.

Examples of progression and the clinical changes will be given.

Lichen planus is another dermatosis which can progress to cancer.

Less common types of vulval cancer such as melanoma, appendageal malignancies, sarcomas and lymphomas will also be discussed and examples shown.

<table>
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<th>Vulval Dermatology</th>
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<td>Subtle presentations of vulval cancer</td>
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<td>D. Rowan</td>
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The vulval skin is about 1% of the total skin surface of the body, but has a relatively high incidence of cancer.

Over 90% of vulval cancers are squamous cell carcinomas. The two most common precursors of this type of vulval cancer are lichen sclerosus and vulval intraepithelial neoplasia. These can develop insidiously into squamous cell carcinoma but there are skin changes which are indicators of this and a low threshold of suspicion must be maintained and biopsies taken to confirm or exclude the diagnosis of cancer. Close clinicopathological correlation is needed.

Management of lichen planus and desquamative inflammatory vaginitis

G. Fischer

Sydney, New South Wales

There are only two dermatoses that involve both the vulva and vagina: lichen planus (LP) and desquamative inflammatory vaginitis (DIV). Both are rare conditions and may appear similar clinically. Some authors have suggested that they are different ends of a spectrum and others have queried the true existence of DIV.

In the differential diagnosis of both conditions is chronic vulvovaginal candidiasis and vulval fixed drug eruption as both may cause a vaginitis. However they present quite differently.
Mucosal LP typically involves the oral and/or vaginal mucosal surface and the labia minora. It is a debilitating, painful, erosive condition that is complicated by resorption of the vulva, stenosis of the vagina and sometimes recurrent abscess formation and squamous cell carcinoma. Histopathology shows typical changes of LP, although finding a representative site to biopsy may be challenging.

Mucosal LP is notoriously difficult to treat. Although oral and topical corticosteroids are effective, side effects (particularly when systemic treatment is used) are problematic. Many other systemic treatments (hydroxychloroquine, griseofulvin, minomycin, dapsone, azathiorprine, thalidomide and oral retinoids) have appeared in the literature but because of the rarity of this condition, almost all reports are anecdotal. Topical potent corticosteroid, pimecrolimus and tacrolimus are helpful but calcineurin inhibitors are limited by adverse reactions due to stinging on application.

DIV is in the author’s opinion a different condition. If is not ever erosive but presents with a pain, dyspareunia, a thick green discharge and glazed red plaques and petechiae on the mucosal surface of the labia minora and vagina. It may be the same condition as plasma cell (Zoon’s) vulvitis. It does not, like LP, ever involve hair bearing skin. Histopathology shows a dense band like mixed infiltrate with plasma cells.

The aetiology if DIV is unknown however it may be associated with hormonal therapy, gynaecological surgery and vaginal carriage of Group B streptococcus.

DIV usually responds readily to topical mupirocin or clindamycin combined with 1% hydrocortisone however there is a high relapse rate particularly in idiopathic cases and many patients require maintenance therapy. This therapy is not effective in true LP.

LP and DIV will be compared and contrasted and the author’s experience with the use of neotigason, methotrexate and topical therapy in LP will be presented.


2. Patient management:
   IV)

3. Reconstruction:
   iii)

4. Lasers and IPL:
   ii)

5. Cosmetic procedures:

Minimising surgical scars: What really works?

M. Hunt
Sydney, New South Wales

Hypertrophic and keloid scarring are abnormal responses to wound healing. In addition to their unsightly appearance,
which often causes distress to patients, they can be uncomfortable and pruritic. A number of therapeutic modalities are available to either minimise the risk of abnormal scarring or treat it once it has occurred. These include topical preparations (such as silicon gel/sheeting, onion extract, vitamins A/E and imiquimod cream), intralesional steroids, pressure dressings and laser therapy. Topical treatments in particular are becoming increasingly popular because of their availability, ease of use and non-invasive nature. This presentation will outline the currently available data regarding the efficacy of these modalities.

Fraxel laser to improve cosmetic outcome in new surgical scars  
C. Kearney  
_Skin and Cancer Foundation, Westmead, New South Wales_

The use of resurfacing lasers (erbium and carbon dioxide) and pulse dye laser is well described in the management of new surgical scars. Fraxel laser is a non-ablative erbium laser with established efficacy in treating acne scars. At the time of writing there is only a single case report of its use in a new surgical scar. The Fraxel laser is able to stimulate an even zone of collagen formation relatively deep in the dermis with minimal downtime, minimal risk of adverse events, and is able to be repeated, all of which make it well suited to use in improving surgical scars. Early results are impressive and half-scar treatments are presented.

Avoidance and treatment of ectropion  
_P. Salmon_  
_Mt Maunganui, New Zealand_

To demonstrate the key principles in avoidance of lower lid ectropion when reconstructing defects around the lid, nasal sidewall and cheek and to demonstrate the techniques of ectropion repair when present. An explanation of the mechanics and anatomy of the lower lid is followed by a demonstration of reconstructive techniques to both avoid ectropion and correct it. A better understanding of the mechanics of the lower lid enables us to design better closures to avoid ectropion and an understanding of the corrective techniques for ectropion enables us to help prevent ectropion as well as treat it.

When things go wrong: Managing complications and suboptimal results  
_M. Hunt_  
_Sydney, New South Wales_

Surgical procedures always carry the risk of complications. These include bleeding, wound breakdown, flap necrosis, scar erythema and nerve damage. During this session both common and uncommon surgical complications along with their management will be discussed.
Aesthetic Dermatology

Looking younger - What really works! Cosmetic dermatology for the non-cosmetic dermatologist
M. Hunt
Sydney, New South Wales

Patients increasingly present to Dermatologists requesting cosmetic procedures because of a desire to look younger. Rather than being a ‘how to’ guide to cosmetic procedures, the aim of this presentation is to give the non-cosmetic Dermatologist an overview of what’s available and the most appropriate treatment options for specific conditions.

Update on dermal fillers
G. Goodman
Melbourne, Victoria

A new paradigm is evolving in managing changes to the ageing face incorporating treating its volume, movement and the surface characteristics. Whilst movement related lines and wrinkles are largely the domain of botulinum toxins, both volume and surface are targeted by ‘filling agents’.

Volume enhancement is required in the ageing face due to resorption and repositioning of tissues. This is achieved either with the use of autologous substances such as fat, or by the use of ‘off-the-shelf’ filling agents. The most popular substance is hyaluronic acid, particularly the thicker forms of this agent, but polyactic acid and hydroxyapatite are also used.

The surface of the skin is a composite of colour, contour and texture all of which may be affected by dermal fillers. Atrophic scars, wrinkles and expression lines may all be treated by currently available agents. A relatively new target for these augmenting agents is the texture of the skin. Injecting specifically engineered products may add stiffness, textural and subtle colour improvement to the skin.

Many tissue augmentation agents are available overseas, and some of these will be highlighted, but in Australia hyaluronic acid is by far the commonest agent. We are seeing a rapid increase in the indications for these products. It is the relative safety of a temporary, but reasonably long term agent that makes this an attractive product.

The many new indications for these agents will be discussed as well as the pitfalls and complications of their use.
Safe and effective use of fractionated laser resurfacing for acne scarring with concomitant isotretinoin therapy
C. Weinstein, K. Da Silva, F. Chen
Melbourne, Victoria

Background and objectives: To assess efficacy and safety of fractionated skin resurfacing (Fraxel Reliant technologies) for acne scarring with concomitant isotretinoin therapy.

Materials and methods: Two matched groups of 37 patients per group with severe facial acne scarring received 4 Fraxel (Reliant Technologies) treatments for acne scarring, one group was also receiving concomitant oral isotretinoin (0.5 mg/kg/day), while the other group did not. Fraxel treatments were performed every 4 weeks. Parameters used in all cases were 125 MTZ/cm², 25 mj, 20 passes, total densities 2500 MTZ/cm². Post treatment, patients with skin types 4–6 also received depigmenting lotion containing Hydorquinone 2.5%–5.0% with retinoic acid 0.05%–0.1%.

Results: Two independent observers assessed degree improvement after 6 months and complications. There was no significant difference in acne scarring improvement between the two groups (mean 72.4% improvement in isotretinoin group, and 73.7% improvement in the non isotretinoin group). There were no cases of scarring, induration or delayed healing in the isotretinoin group. In the non isotretinoin group, there were 2 cases of localized scarring (small nodule), probably due to inadequate cooling between laser passes.

Conclusion: Fractionated laser resurfacing (Fraxel) for acne scarring appears to be safe and effective when used concurrently with oral isotretinoin therapy.

Contact Dermatitis

Why do patients with occupational contact dermatitis not get better?
R. Nixon¹, J. Williams², A. Palmer¹, M. Matheson³, S. Dharmage¹
¹Occupational Dermatology Research and Education Centre, Skin and Cancer Foundation, Victoria
²Department of Dermatology, Hope Hospital, Manchester, United Kingdom
³Centre for Molecular, Environmental, Genetic and Analytic Epidemiology School of Population Health, University of Melbourne, Victoria

We have attempted to construct an algorithm to describe outcomes in occupational dermatitis, based on our findings on patient follow up. 225 workers with occupational dermatitis were reviewed 2–8 years following their attendance at the clinic. The response rate was a disappointing 30.2%, although comprised 48.9% of those contactable.
While 24.4% of workers were clear of their dermatitis; the majority, 43.8% were predominantly clear but still experienced occasional flare-ups; 20.7% had persistent dermatitis with occasional clear periods and 11.1% had persistent dermatitis. In fact 33 (14.6%) were diagnosed with persisting post-occupational dermatitis (PPOD).

Modification of work practices was most associated with improvement of occupational dermatitis, together with modification of work tasks and actual job change. However, ongoing exposure was found to be the most common cause of persisting dermatitis and was particularly common in healthcare workers who were reluctant to change their duties or their occupations.

A series of questions was constructed to assist clinicians in ascertaining the reasons why workers fail to improve. These included assessing the patient’s understanding of the diagnosis made in the clinic and all the factors contributing to the skin condition; their continuing exposures, and skin care and treatments. New skin conditions also need to be considered, as well as exposures to new irritants and allergens. Finally PPOD is the diagnosis of exclusion.

Follicular irritant contact dermatitis in the mining industry
AY Lee¹, J.D. Williams², R.L. Nixon¹,³
¹Department of Dermatology, Monash Medical Centre, Melbourne, Victoria
²Department of Dermatology, Hope Hospital, Manchester, United Kingdom
³Occupational Dermatology Research and Education Centre, Skin and Cancer Foundation, Melbourne, Victoria

Irritant contact dermatitis (ICD) is a common occupational skin disease, however follicular ICD is less commonly recognised and diagnosed. In the mining industry, cutaneous infections, miliaria rubra and allergic contact dermatitis have previously been reported. We report on our recent investigation of skin eruptions in workers from a metal refinery in the hot, humid environment of Far North Queensland. Up to 90 workers were employed by a construction company working at the refinery, of which at least 28 had developed skin rashes. A majority had developed follicular based eruptions which were thought to be due to follicular irritation. We conclude that workers in the mining and construction industry in hot and humid environments are at risk of developing follicular based irritant dermatitis, caused by a combination of dust exposure, the occlusive effects of personal protective equipment and sweating from the humid environment. Follicular ICD is an important entity which clinicians need to be aware of as it often remains undiagnosed.
Trichlorethylene dermatotoxicity – A review
C.L. Goh
National Skin Centre, Singapore

Trichloroethylene (TCE) is widely used as an industrial degreasing agent, solvent, and extraction agent. TCE if absorbed into the body can cause toxic effects on the nervous system, liver, kidney, heart, and skin. The common clinical manifestations of TCE toxicity include hepatitis and generalized severe dermatitis and skin eruptions including multiform erythema and Stevens-Johnson syndrome, and toxic epidermal necrolysis mimicking drug hypersensitivity syndrome. There appears to be genetic susceptibility to TCE hypersensitivity syndrome. We review the cases of TCE toxicity seen in Singapore over the last decade. 3 patients died from TCE toxicity from industrial exposure. The pathogenesis of this TCE hypersensitivity syndrome is unknown. Physicians managing patients presenting with severe skin eruptions associated with hepatitis, mimicking drug induced hypersensitivity syndrome should always obtain a carefully occupational history to exclude TCE hypersensitive syndrome.

The contact allergen bank: An idea from Denmark adapted to Australia
R.L. Nixon, A. Palmer
Occupational Dermatology Research and Education Centre, Skin and Cancer Foundation, Melbourne, Victoria

The contact allergen bank is an idea that originated in Denmark some 10 years ago, to improve access of dermatologists in remote areas to patch testing. When it begins operating here, dermatologists will select patch test series that they would like to test on a particular patient from a database on-line, or hard copy if they prefer. The patch tests are then prepared at our specialised centre and mailed or couriered to the dermatologist, together with a test sheet, prepared from our computerised patch testing program, CAMS. The dermatologist subsequently reports the patch test reactions on-line or by fax to the centre for recording in our database.

Assistance with interpretation of the patch test results by phone will be available at designated times during the week with Rosemary Nixon or by email, if required. Patient information sheets will also be supplied.

Funding is currently being sought to provide this service. It is our intention to charge Medicare rebates for the patch tests with the pre-prepared allergens, but additional funding will be required to operate other aspects of this service.

Nevertheless, we hope that when this service becomes available, dermatologists will have greater access to the allergens necessary for comprehensive patch testing and if required, specialised assistance with the interpretation of reactions.
Details of the service and when it becomes available will be posted on our website, www.ocderm.asn.au

Galderma Sponsored Breakfast: Photodynamic Therapy

PDT for non-melanoma skin cancer – A European viewpoint regarding recurrence rates, patient satisfaction and management of side effects
R.-M. Szeimies
Department of Dermatology, Regensburg University Hospital, Regensburg, Germany

President of the German Society for Photobiology, and vice-president of both the European and International Societies for Photodynamic Therapy in Dermatology, Professor Szeimies has treated over 2,500 patients with PDT, mostly actinic keratoses, basal cell carcinoma and Bowen’s disease. He has also participated in multiple clinical and preclinical trials in the field of PDT and photodiagnosis.

Professor Szeimies will share his experiences and viewpoint on PDT with Metvix for superficial epithelial skin tumours. Discuss the 60 months follow-up data from two randomised controlled multicentre trials are available for MAL-PDT in both nodular and superficial BCC and the efficacy rates are equal to that of current treatment modalities. Discuss his understanding of patient satisfaction for PDT as a treatment option especially in those patients who have previous experience with other therapies like surgery, topical 5-fluorouracil (5-FU), or cryotherapy and share practical tips regarding pain management techniques, particularly for large field areas and sensitive areas of the face.

Practical consent for Metvix PDT
D. Francis
Brisbane, Queensland

Photodynamic therapy (PDT) is a particularly useful modality for selected patients with sun damage and skin cancer. As with any medical procedure, the patient should be fully informed about the procedure itself, as well as the possible reactions, side effects and outcomes that may ensue. Practical aspects of the process of informed consent for Metvix-PDT are addressed in this presentation. Specific areas that may need to be highlighted to the patient before going ahead with the procedure are addressed. These include pain and pain relief, possible efficacy of PDT and recurrence rates, and the types of reactions that may occur after PDT, including swelling, redness and pustulation. With a good understanding of Metvix PDT by both the patient and practitioner, optimal outcomes are more likely to be achieved.
Photobiology and Photomedicine

Is there a safe level of sun exposure?
B. Armstrong
School of Public Health, The University of Sydney, New South Wales

For there to be a safe level of exposure to any environmental agent, at least one of three conditions must apply:

- The agent causes no harm at any level to which humans are exposed;
- There is a threshold level of exposure below which the agent causes no harm; or
- The agent causes harm at any level of exposure but has beneficial effects that exceed its harmful ones up to some measureable level of exposure.

Sun exposure does cause harm to humans and while arguments might be made for a threshold below which it causes no harm, this presentation will assume there is none. Sun exposure does have benefits; the best known being those associated with vitamin D produced in the skin from exposure to solar UVB radiation. These benefits may be large relative to the known harm caused by sun exposure at a global level (Lucas R et al. International Journal of Epidemiology 2008; Advance Access doi:10.1093/ije/dyn017). If this is true, there is for each person a range of values of sun exposure over which the benefit they receive from it is greater than the harm. While the point at which benefit and harm are equal might be described as the safe level (any higher levels being unsafe), it would be preferable to establish an optimal level: the level at which the net benefit is greatest.

This presentation will:
- Briefly summarise present evidence for beneficial effects of sun exposure that could counter its harmful effects;
- Explore the basis for present statements about a sufficient level of sun exposure and consider how a sufficient or, preferably, optimal level might be defined;
- Examine the practicality of and necessary precedents to public promotion of an optimal level of sun exposure; and
- Consider the alternatives, mainly fortifying food with vitamin D or taking it as a prophylactic medicine.

Novel applications of photodynamic therapy in dermatology
R-M. Szeimies
Department of Dermatology, Regensburg University Hospital, Regensburg, Germany

Topical photodynamic therapy with 5-aminolevulinic acid (ALA) or its methyl ester (MAL) is a well-established treatment regimen for superficial epithelial skin tumours, but it is evident that inflammatory diseases of the skin and
virus-induced lesions also profit from PDT. Depending on the light dose applied, either cytotoxic effects resulting in tumour destruction or immunomodulatory effects resulting in improvement of inflammatory conditions occur. Whereas patients with chronic plaque-stage psoriasis do not profit significantly from PDT, patients with localized scleroderma that had been unresponsive to various treatments, including PUVA or bath-PUVA therapy, respond very well to topical ALA-PDT performed repeatedly. In contrast to PUVA therapy, no carcinogenic potential is being discussed for PDT. Also, HPV-induced skin lesions might provide a possible indication for topical PDT. The rapidly proliferating cells in viral acanthomas accumulate ALA/MAL-induced protoporphyrin IX selectively when compared to the surrounding non-infected cells. The efficacy of topical PDT in the treatment of recalcitrant foot and hand warts has been shown in a placebo-controlled, randomized, double-blind trial. Furthermore, case reports describe a good response of other virus-induced diseases, as well as in cutaneous leishmaniasis. However, controlled clinical trials are still needed to demonstrate more fully the effectiveness of PDT for inflammatory skin diseases.

Free Papers Session

Pyrexia of unknown origin and Kaposi’s sarcoma associated with chronic herpes virus-8 infection
L. McCrossin1, H. Kalouche1, C. Henderson2, J Chen2
1Departments of Dermatology and 2Anatomical Pathology, Liverpool Hospital, Liverpool, New South Wales

A fifty five year old woman of Southern Italian origin presented with a 2 year history of P. U. O. fatigue and peripheral oedema and recent onset of papules on the fingers.

Histopathology showed Kaposi’s sarcoma and quantitative real time PCR performed in Milan in Italy showed HHV8 plasma viraemia of 1851 genome equivalents per ml and 2206 genome equivalents per 10⁶ peripheral blood mononuclear cells.

Treatment with cidofovir 5 mg/kg 2nd weekly resulted in suppression of the viraemia and resolution of the viraemia and of the Kaposi’s sarcoma lesions.

The History of Kaposi’s sarcoma and the clinical variants are described with clinical examples from Liverpool Hospital.

The epidemiology, biology, transmission, laboratory testing, associations and relationship to Kaposi’s sarcoma of herpesvirus-8 are reviewed.
Is granulomatous dermatitis of the genitalia a manifestation of orofacial granulomatosis or cutaneous Crohn's disease?
A. Hall
Geelong, Victoria

A 51 year old circumcised Somalian man presented with a 2 month history of a very painful indurated glans penis. He was unable to wear underclothing due to considerable discomfort. His presentation was complicated with mild proteinuria and mildly abnormal renal and liver function tests. An initial biopsy from the glans penis prior to referral to the genital dermatology clinic demonstrated necrotizing granulomatous dermatitis and vasculitis. Prior empirical treatment with doxycycline 2 weeks had not helped. A repeat biopsy showed a chronic spongiotic dermatitis pattern with limited non-necrotizing granulomatous dermatitis and no evidence of vasculitis while repeat staining for microorganisms was again negative. Extensive investigation for an infective cause was negative, including tuberculosis. Treatment with minocycline 50 mg twice daily for 3 months resulted in total symptomatic and clinical resolution. The granulomatous reaction pattern associated with facial oedema and swelling is seen in orofacial granulomatosis. Orofacial granulomatosis includes granulomatous cheilitis (cheilitis granulomatosis) and Melkersson-Rosenthal syndrome. This tissue reaction pattern is also seen with cutaneous and oral Crohn’s disease. Granulomatous cheilitis with lip swelling may predate the diagnosis of Crohn’s disease. It is possible that orofacial granulomatosis (including granulomatous cheilitis and Melkersson-Rosenthal syndrome), cutaneous Crohn’s disease and granulomatous dermatitis of the genitalia are all related or at least part of the same spectrum.

Ultrasound therapy for lipodermatosclerosis
D.L. Damian1,2, E. Yiasemides1,2, S. Gupta1, K. Armour2
1Department of Dermatology, University of Sydney, Sydney, New South Wales
2Department of Dermatology, Royal Prince Alfred Hospital, Camperdown, New South Wales
3Department of Physiotherapy, Royal Prince Alfred Hospital, Camperdown, New South Wales

Lipodermatosclerosis (LDS) consists of inflammation and woody induration predominantly affecting the lower third of the legs in patients with chronic venous or lymphatic hypertension. Acute LDS can be very painful, and is frequently misdiagnosed as cellulitis. Treatment of underlying venous incompetence may be helpful, and whilst some improvement in symptoms may be gained by the use of compression stockings and topical steroids, therapeutic options for this condition are limited. Treatment of LDS with ultrasound was reported in a single case series 25 years ago. We used 3 MHz ultrasound therapy, 3 times per week for 4 to 12 weeks, on 14 LDS-affected legs. In 12 cases, the induration
and erythema of LDS substantially improved or resolved, often with marked reduction in pain and tenderness within a few weeks. There were no adverse effects of treatment. Ultrasound therapy is readily available through physiotherapy departments, and may offer substantial and often long-lasting improvement of this otherwise refractory condition.

Ingenol-3-Angelate (PEP 005) gel, a novel agent for the treatment of actinic keratoses: Results of a safety and efficacy study
G. Siller
Brisbane, Queensland

The active constituent Ingenol-3-Angelate (PEP 005) of the sap of the euphorbia peplus plant is a traditional remedy for skin conditions. This study investigated the safety and efficacy of two applications of PEP 005 topical gel for biopsy confirmed actinic keratoses. Efficacy at the highest concentration of 0.05% resulted in complete clinical clearance of 71% of target lesions. Sixty seven percent of patients treated with this concentration had an 80% or more clinical clearance rate of their lesions. The most common local skin responses were erythema, flaking, scaling and scabbing crusting which were dose related. PEP 005 topical gel appears to be a safe and effective therapy and is being developed as a short course treatment for actinic keratoses.

A comparison of melanoma in private dermatological practice in urban and rural Australia
B. De' Ambrosis¹, J. McCrossin²
¹Brisbane, Queensland
²Nowra, New South Wales

Australia has a very high incidence of melanoma. This study looks at a comparison of melanoma presentations in two private Australian dermatological practices, one in an urban centre and the other in a rural area.

The urban practice is based in Brisbane, South-East Queensland, and the rural practice is based in Nowra, located south of Sydney in South-East New South Wales. Some of the variables covered include, number of melanomas, type of melanomas, thickness, site, and age of the patient.

Medico legal issues relating to melanoma will also be discussed particularly in regard to diagnosis.
In vivo reflectance confocal microscopy enhances secondary evaluation of melanocytic lesions

P. Gutier1, G. Pellacani2, C. Longo3, S. Seidenari2, M. Avramidis1, S.W. Menzies1
1Sydney Melanoma Diagnostic Centre, Sydney Cancer Centre and Dermatology Department, Royal Prince Alfred Hospital, Faculty of Medicine, University of Sydney, Sydney, New South Wales
2Department of Dermatology, University of Modena and Reggio Emilia, Italy

Our aim was to evaluate a confocal microscopy (RCM) method recently described for assessing melanocytic lesions in clinical practice.

In two referral centres in Sydney and Modena, the RCM method was used to diagnose a set of melanocytic lesions (203 naevi, 123 melanomas, median Breslow thickness of 0.54 mm) that were excised because of clinical suspicion (history, dermoscopy examination and/or digital monitoring). The method was also trialed on a non-biopsied population of 100 lesions which were clinically and dermoscopically diagnosed as benign naevi. All RCM diagnoses were performed by two blinded experts.

Firstly, in the study population, a high interobserver agreement (on a subset of 90 lesions) was seen with the RCM method, which had superior specificity (68%, 95CI 61.1–74.3) for the diagnosis of melanoma compared to dermoscopy (30%, 95CI 23.8–36.9), while showing no difference in sensitivity (91%, 95CI 84.6–95.5 RCM; 88%, 95CI 80.7–93.0 dermoscopy). The two techniques had a weak correlation, resulting in only 3.3% of melanomas being misclassified by both techniques. Diagnosis of light coloured lesions is improved by RCM (specificity 84%, CI 66.3–94.5) compared to dermoscopy (specificity 16%, CI 5.45–33.7). Secondly, the RCM method classified 100% of the non-biopsied control naevi population as benign.

Topical immunotherapy for cutaneous metastatic melanoma

D.L. Damian1,2, J.F. Thompson2,3

1Department of Dermatology and 2Sydney Cancer Centre and 3Sydney Melanoma Unit, University of Sydney at Royal Prince Alfred Hospital, Camperdown, New South Wales

Diphenycyprone (DPCP) is a potent contact sensitiser frequently used to treat alopecia areata and refractory cutaneous warts. We report our experience of DPCP therapy for melanoma metastatic to skin and unsuitable for other therapies. One patient with extensive scalp metastases, and another with cervical node involvement as well as extensive lesions on the chest and upper back, had both failed radiotherapy. Weekly applications of DPCP to the affected skin caused histologically confirmed regression of their disease.

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and both remain clinically and radiologically disease-free 3 years and 1 year later respectively. In a third patient with extensive scalp lesions, DPCP appeared to slow the rate of disease progression, as the lesions rapidly increased in size and number when DPCP was temporarily halted. Although his disease again slowed after resuming DPCP, it continued to progress and he died 18 months later. Topical immunotherapy with DPCP is an inexpensive and well-tolerated treatment which should be considered for patients with extensive cutaneous melanoma metastases.

### Melanoma Update

**Managing congenital melanocytic nevi**

A.A. Marghoob  
*Memorial Sloan-Kettering Cancer Center, New York, United States of America*

Congenital melanocytic nevi (CMN) are tissue malformations of the neuroectoderm. Analysis of epidemiologic data in registries enrolling patients with CMN has improved our knowledge regarding the risk factors for developing cutaneous melanoma, extra-cutaneous melanoma and neurocutaneous melanocytosis (NCM). The epidemiologic data has also helped stratify patients with CMN into high risk and low risk groups for developing NCM or cutaneous melanoma. Clinical researchers have helped elucidate the primary clinical, dermoscopic and confocal morphology of CMN. These observations have resulted in improvements in the clinical follow-up care of CMN and have contributed to a better understanding of nevogenesis. Basic science research into the etiology of CMN and NCM has provided us with insights into why these patients are at risk for developing melanoma, rhabdomyosarcoma, and NCM. The insights gained from clinical researchers, epidemiologists and basic science researchers are likely to lead to more effective screening strategies (i.e., physical examination including inspection and palpation, dermoscopic evaluation, neurological examination, etc.), follow-up testing (i.e., MRI, PET, etc.), methods for preventing cancer and NCM progression (i.e., chemoprevention), and methods for treating patients with CMN that develop melanoma or NCM (i.e., temozolomide, growth factor inhibitors, etc.).

The management of patients with CMN, especially large CMN, may require the collaboration of multiple physicians including GPs, dermatologists, radiologists, plastic surgeons, neurologists, pathologists and psychologists. The final treatment plan needs to be individualized for each patient based on factors such as the nevus size, thickness, location, known risk factors for developing melanoma, risk of NCM and psychological characteristics of the patient and family. It is important to remember that the only 'absolute' indication for active intervention is the presence of malignancy. All other indications for therapy are considered
‘relative’ (i.e., prophylactic therapy or treatment for improved cosmesis). Risks and benefits of no treatment versus treatment including surgical options, chemical peels, dermabrasion, curettage and laser therapy should be discussed with the patient and/or family. The main focus of managing patient with CMN is to address the concern for developing malignancy while at the same time optimizing the aesthetic, psychological and functional outcomes.

What’s new in melanoma treatment?
J. Thompson
Sydney Melanoma Unit, Royal Prince Alfred and Mater Hospitals; and The University of Sydney, Sydney, New South Wales

Surgery is still the mainstay of successful melanoma treatment, not only for patients with AJCC/UICC stage I and stage II disease but also for those with stage III disease, involving regional lymph nodes. There is even more recent clinical trial evidence suggesting that those with stage IV disease can sometimes benefit from surgical resection of their visceral metastases. Systemic therapy options for patients with stage IV disease are limited and remain generally ineffective. However, there is some optimism that an improved understanding of the metabolic pathways involved in the continued growth of melanoma cells may lead to some effective treatment strategies in the reasonably near future. There has been renewed interest in loco-regional treatment modalities, and one promising approach has been to inject melanoma recurrences with Rose Bengal. This is being investigated in a clinical trial setting (the Provectus study), and it has been interesting to observe that not only injected tumour deposits undergo involution and necrosis, but non-injected “bystander” lesions sometimes undergo involution as well. In another study, patients who have failed other treatments, including radiotherapy, have been successfully treated with topical diphencyprone to cutaneous tumour deposits. Yet another form of loco-regional therapy, isolated limb infusion with cytotoxic drugs, is now a well-established, low morbidity treatment option for patients with extensive melanoma recurrences involving a limb. Complete tumour remission rates of up to 50% are reported, and overall response rates are around 80%. Adjuvant therapy options remain limited, and the small improvement in disease-free survival associated with the use of high-dose interferon α-2b is offset by the considerable morbidity of the treatment. Although many clinical trials have been conducted, no adjuvant vaccine therapy has yet been demonstrated to produce a disease-free or overall survival benefit.
Medicolegal aspects of melanoma diagnosis

A.A. Maryhooch
Memorial Sloan-Kettering Cancer Center, New York, United States of America

Due to its particularly lethal nature, ability to mimic benign lesions and tendency to affect relatively young individuals, malignant melanoma represents an important source of diagnostic error, litigation risk and poor litigation outcomes for dermatologists. A number of studies have analyzed and documented malpractice claims related to a misdiagnosis of melanoma. These studies acknowledge that an incorrect diagnosis of melanoma is a major cause of malpractice lawsuits for dermatologists and pathologists in the United States. Thus, it is important that physicians dealing with high risk patients become familiar with the legal framework governing medical malpractice litigation and become familiar with what constitutes ‘standard medical practice’ and ‘standard of care’.

Furthermore, it is imperative for clinicians to be cognizant of the fact that a mistake made by the pathologist does not automatically absolve them from liability.

Familiarity with the clinical scenarios that frequently serve as a basis for melanoma-related malpractice claims may help clinicians avoid these pitfalls. The most frequent scenarios include: 1) nodular melanoma missed clinically, 2) nodular melanoma misdiagnosed as a nevus by the pathologists, 3) partial biopsies leading to an inaccurate diagnosis, 4) melanoma misdiagnosed as a dysplastic nevus, 5) melanoma misdiagnosed as a Spitz nevus, 6) unrecognized desmoplastic melanoma, and 7) metastatic melanoma with an unknown primary.

Good Advice and Some Strategies for Avoiding Errors

- Document as much as possible – if it is not written down, it did not occur.
- Consider the use of photography to document the appearance and location of lesions.
- Have patients actively participate in the decision making process and in their health care. Have patients accept some responsibility for their own health by stressing the importance of self skin examinations.
- Make sure that patients understand that lesions may change. Even if “at this moment in time” everything looks benign, they should watch for changes and follow up with their physician periodically and whenever they see a new or changing lesion.
- Examine closely and follow-up on those lesions that are brought to your attention by a patient.
- Follow-up on Spitz nevi.
- Follow-up on lesions treated with liquid nitrogen.
- Review the original pathology and excise recurrent nevi.
Novel kinase inhibitors to target the melanoma’s Achilles’ heel
N.K. Haass1,2, K.S.M. Smalley2, J.T. Lee2, M. Herlyn2
1Centenary Institute, Newtown, New South Wales
2The Wistar Institute, Philadelphia, United States of America

Disseminated melanoma is highly therapy-resistant and standard chemotherapy has failed in clinical trials. The finding that 66% of melanomas harbour the activating B-RafV600E mutation has raised expectations for targeting the mitogen-activated protein kinase (MAPK) pathway in melanoma. In clinical trials monotherapy with the multi- kinase inhibitor sorafenib has shown little activity in two phase II trials, but sorafenib can augment the activity of chemotherapy in melanoma. Novel approaches to melanoma therapy are urgently needed.

As preclinical studies in vitro often poorly predict the outcome of clinical studies we have developed a novel cell culture model which better compares to the in vivo situation: human melanoma cells are grown as three-dimensional spheroids and then implanted into collagen gels to mimic the tumour architecture and microenvironment. Here we discuss the anti-melanoma activity of the mitogen-activated protein/extracellular signal-regulated kinase kinase (MEK) inhibitor AZD6244 (ARRY-142886) and the B-RafV600E inhibitor PLX4720 in 2D cell culture, the 3D spheroid model, and an in vivo xenograft model.

Inhibition of MEK with AZD6244 is cytostatic as a mono- therapy in melanoma, but cytotoxic when combined with docetaxel. For the first time we show here an inhibitor that directly targets the MAPK pathway in melanoma to correlate in vitro and in vivo data. Specific inhibition of B-RafV600E with PLX4720 blocks proliferation exclusively in melanoma cells harbouring the B-RafV600E mutation and leads to tumour regression in vitro and in vivo.

Given their better potency and specificity these novel drugs are important candidates as second generation small molecule therapeutics targeting the MAPK pathway.
Graft-versus-host disease (GvHD) is a severe complication of allogenic hematopoietic stem cell transplantation and still appears in more than the half of all transplant recipients. GvHD can arise at various time points: acute GvHD occurs during the first 100 days after transplantation in up to 50% of graft recipients. Chronic GvHD develops less frequently in about 30% of cases after the 3rd month following transplantation involving the skin, the liver, the gastrointestinal tract, the eyes and the neuromuscular apparatus. Early diagnosis of GvHD can be difficult, as drug reactions, viral infections and cutaneous reactions to conditioning radiation therapy may have clinical and histopathological similarities. In this presentation, the various cutaneous manifestations of GvHD, the histopathologic features, current therapies and prophylaxis of acute and chronic GvHD will be discussed.

Ocular rosacea (OR) represents a group of ocular signs and symptoms associated with acne rosacea. The incidence of ocular involvement in patients with acne rosacea ranges from 6–58% of patients depending on the method of examination and patient population. Degree of eye involvement with acne rosacea does not correlate with skin disease, with some patients having progressive blinding ocular rosacea with minimal skin involvement. Clinically ocular rosacea presents with symptoms of photophobia, foreign body sensation and signs of meibomian gland inflammation, lid margin telangiectasia, conjunctival hyperemia, corneal ulceration, vascularisation and possible perforation. The underlying aetiology of ocular rosacea is unknown however the ophthalmic manifestations reflect an inflammatory process arising from the Meibomian glands. A review of current recommended ophthalmic management will be outlined as well as reporting the Moorfields Eye Hospital case series of patients requiring systemic immunosuppression to maintain their vision.
Molemap Sponsored Dermoscopy Breakfast Session

Challenging diagnostic situations: How we analyse images
A.A. Marghoob
Memorial Sloan-Kettering Cancer Center, New York, United States of America

Technological advances in automated diagnosis have prompted a critical analysis of the visual and cognitive elements of the clinician’s assessment of pigmented lesions. Observational strategies used by experts in the evaluation of pigmented lesions include analytical reasoning, differential recognition, and pattern analysis (gestalt).

Experts use various analytical reasoning strategies simultaneously in an interactive fashion. Deliberative analytical reasoning, as exemplified by the four main algorithms or scoring methods in dermoscopy, is the primary strategy when a case is complex or ill defined, the clinical findings are unusual, or the physician has had little clinical experience with the particular disease entity. The pattern analysis method, in contrast, relies on non-analytical reasoning. It is more intuitive than logical, not easily replicable, and difficult to learn. A critical element of becoming an expert is accruing the experience that enables one to recognize patterns effortlessly and to recognize, as well, when the findings do not fit a pattern at all. The differential recognition process relies on the “moles breed true” concept or “ugly duckling”, which have been promulgated to aid melanoma diagnosis and are now joined by the “beauty and the beast sign. This sign holds that, melanomas are usually morphologic outliers that lack the symmetry of structure, pattern, and color typically associated with benign lesions. As we improve our understanding of the visual and cognitive elements of diagnosing melanoma we will be better able to teach both humans and machines the accurate detection of early melanomas.

DERMATOPATHOLOGY

Lymphocytic thrombophilic arteritis: A distinctive biopsy finding in livedo racemosa
S. Kossard, J. Lee
Skin and Cancer Foundation Australia, Darlinghurst, New South Wales

Livedo racemosa is a clinical presentation characterised by a mottled irregular arborising patchy vascular network usually confined to the limbs. This can be a consequence of emboli, thrombosis in thrombophilic states, a variety of vasculopathies affecting the arterioles or a necrotising vasculitis.
We describe five young women who presented with an irregular hyperpigmented livedo discoloration of their legs and to a lesser extent their arms with an average prior duration of 2.4 years (range 1–4 years). The netlike racemose pattern was fixed. Clinical examination revealed subtle nodular induration in the deep tissue that was palpable but not visible. There were no ulcers, gross scars or atrophic blanche. One patient had Raynaud’s phenomenon and numbness of the lower limbs particularly in cold weather.

Four patients had antiphospholipid antibodies and one of these had a heterozygous mutation of the Factor 5 Leiden gene. Erythrocyte sedimentation rate was raised in three patients and an antinuclear antibody was detected in three patients, two of whom had negative tests when this was repeated.

All biopsies had a distinctive appearance at lower power magnification with inflamed medium sized arterioles in the deep dermis and upper subcutis. These arterioles were obscured and surrounded by a marked predominantly lymphocytic mononuclear cell infiltrate. A distinctive fibrin ring outlined the lumen of the vessels and could be seen on lower power magnification. Eosinophils and neutrophils were absent or scant. A granulomatous component was not present. Immunophenotyping in two patients revealed that the lymphocytes were predominantly T-cells.

This presentation has been previously described as macular arteritis but lymphocytic thrombotic arteritis appears to be a more appropriate description for the histopathology.

The clinical presentation together with the histopathology can be distinguished from cutaneous polyarteritis nodosa, livedoid vasculopathy and thrombogenic processes such as the antiphospholipid syndrome.

Although systemic associations have not emerged so far in our patients, a longer follow-up period will be required as a systemic counterpart with or without cutaneous disease with this distinctive histopathology may emerge.

Mastocytosis – State of the art
D. Norris
Queensland Medical Laboratory, Brisbane, Queensland

Mastocytosis comprises several diseases all characterized by an abnormal increase in tissue mast cells. There have been major advances in recent years in understanding the pathogenesis of mastocytosis and this review is aimed at updating dermatologists on this information. Possible implications for diagnosis and treatment will also be explored.

Cutaneous mastocytosis (CM) is the most common form of mastocytosis, affects predominantly children and presents
as mast cell proliferation limited to the skin. Systemic mastocytosis (SM) comprises distinct entities in which mast cells infiltrate the skin and/or other organs.

The heterogeneous clinical presentation, classification, diagnostic criteria and recent genetic findings will be discussed.

Activating and nonactivating mutations of c-kit (Asp816Val) are seen in adult SM and in some pediatric CM (activating mutations at codon 815 and 816; nonactivating at codon 839) indicating a clonal dysregulation. Most cases of childhood-onset and familial mastocytosis seem to lack these mutations.

Despite the presence of c-kit mutations, patients with cutaneous lesions usually have a good prognosis, even if there is involvement of other organs. Some patients, particularly children, regress at puberty. C-kit mutations do not explain the cause of mastocytosis and its prognostic significance remains unclear. These mutations may persist after clinical resolution.

Counselling, prevention of exposure to mast cell trigger factors, and symptomatic treatment remain the mainstays of current patient management. Symptomatic treatment aimed at reducing effect of mediators is effective with antihistamines and mast cell stabilizing agents such as sodium cromolyn. When it is necessary to reduce mast cell burden, IFN alpha, steroids, and purine analogs have been used with varying results. Future directions include tyrosine kinase inhibitors (Glivec for patients lacking codon 816 c-kit mutations) and bone marrow transplantation remains under investigation.

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**RESEARCH UPDATE**

Hair research update

G. Cotsarelis

*Department of Dermatology, University of Pennsylvania, Philadelphia, United States of America*

The two main goals of this talk are to provide a framework for understanding the relevance of new findings to alopecia and to learn about recent breakthroughs in hair follicle biology. Patients often learn of breakthroughs in hair research and present to your office armed with the latest “research findings” acquired from the internet. We will examine select hair research findings and discuss their possible clinical relevance so that you are better prepared to advise your patients.

Almost all forms of alopecia result in major aberrations of hair follicle cycling. In androgenetic alopecia, as follicles miniaturize, the anagen stage markedly decreases and the
size of the follicle diminishes. Telogen effluvium may result from different mechanisms, but ultimately excess hair shedding brings the patient to the office. Understanding factors controlling each stage of the hair follicle cycle provides targets for drug discovery. Genes such as sonic hedgehog, Wnts and β-catenin play important roles in hair follicle cycling and potentially could serve as targets for new avenues for treatment of hair loss.

Hair follicle stem cells in the bulge are responsible for the continued regeneration of the follicle. The role of these cells in hair growth and alopecias can now be studied because of advances in molecular and developmental biology. We have shown that loss of the hair follicle stem cell population results in destruction of the hair follicle, yet hair follicle stem cell numbers are preserved in androgenetic alopecia. Future studies will focus on defining cell populations within the follicle important for causing hair loss.

Lastly, potential new treatments for alopecia will take advantage of the skin’s regenerative capabilities. Injury to the epidermis causes the skin to assume an “embryonic” competent state in which keratinocytes respond to signals leading them to assume a hair follicle fate. These findings may lead to new ways to treat hair loss.

**In vivo imaging of cutaneous T cell lymphoma migration to the skin**

C. Hoeller¹², S. Richardson³, L.G. Ng¹⁴, T. Valero⁷, A.H. Rook¹, W. Weninger¹⁴⁵

¹The Wistar Institute, Philadelphia, PA 19104, United States of America
²Department of Dermatology, Medical University of Vienna, Vienna, Austria
³Department of Dermatology, University of Pennsylvania, Philadelphia, United States of America
⁴The Centenary Institute for Cancer Medicine and Cell Biology, Newtown, New South Wales
⁵Department of Dermatology, University of Sydney, Camperdown, New South Wales

Cutaneous T-cell lymphoma (CTCL) is characterized by the accumulation of malignant CD4⁺ T cells in the skin. Although the expression of adhesion molecules and chemokine receptors on CTCL cells has been studied extensively on ex vivo isolated cells, very little is known about the dynamics and mechanisms of CTCL trafficking in vivo. However, detailed knowledge of the molecular cues mediating CTCL migration may be used to interfere with their homing to the skin. Here, we made use of intravital epifluorescence video and two-photon microscopy to visualize malignant T cells from Sezary syndrome (SS), a leukemic variant of CTCL, in dermal microvessels in real time in mouse ear skin. We found that SS T cells rolled along dermal venules in a P- and E-selectin-dependent manner at
It’s an RNA world! Gene networks, psoriasis and cancer

S. Gilmore
Dermatology Group, The University of Queensland School of Medicine, Princess Alexandra Hospital, Woolloongabba, Queensland

High-throughput molecular investigation, such as cDNA micro-array and protein array technology – coupled to recent advances in software design – have revolutionised the investigation of both normal and abnormal biology. It is apparent that most of the genome is transcribed, but only a small proportion – perhaps one or two percent – is translated to protein. What is all this other non-translated RNA doing? It is likely that non-translated RNA molecules, which may number in the hundreds of thousands of different species, are performing an essential intra and trans-cellular logical computational function. In other words, all these molecules participate in a complex web of interaction, interfacing with some proteins, and ensuring that all cellular proteins are produced in the right concentrations and at the right times. Many of these logic-function molecules, such as the recently discovered micro-RNA’s, are dysregulated in disease such as psoriasis and cancer. Here I discuss recent evidence which suggests many diseases, such as psoriasis and cancer, may result from mutations to non-translated regions of DNA leading to an aberrant program of cellular logical computation.

Keynote Session

Lumps and bumps in neonates and children

I. Frieden
University of California, San Francisco, United States of America

As dermatologists have become more surgically oriented and as paediatric dermatology has emerged as a subspecialty, we see more and more lumps and bumps referred to us which in the past would have gone directly to pediatric surgeons and other surgical specialties. We will review which presentations should cause concern for malignancy and examples of some interesting presentations of lumps and bumps, both common and rare will be discussed.
Ocular side-effects of topical, regional and systemic steroids
C. Petsoglou
Save Sight Institute and University of Sydney, Sydney, New South Wales

Corticosteroids even at low doses have potentially vision threatening side effects that will be discussed. Systemic steroids are widely recognised to induce cataract, but this can occur at any age with the lowest systemic total dose reported being 300 mg. Further central retinal oedema also will present with slow uni- or bilateral vision loss however is less treatable. Periocular steroid can cause corneal thinning and perforation, glaucoma, ptosis and reactivation of herpes simplex virus. Finally there is a risk of permanent blindness with central retinal artery occlusion due to the intra-arterial injection of steroid suspensions in the periorbital region or scalp.

POSTER PRESENTATIONS

Type III Procollagen peptide (PIIINP) – A valuable non-invasive screening test for patient taking Methotrexate
C. An, J. Sullivan
Department of Dermatology, Liverpool health service, Liverpool, New South Wales

Methotrexate is commonly used in the treatment of chronic severe psoriasis and other rheumatoid arthropathy. Although liver biopsy is still the gold standard investigation for liver cirrhosis due to long term use of methotrexate it carries significant risks. The need for this invasive procedure can be significantly reduced by monitoring the serological markers of fibrosis, particularly the elevation of aminoterminal peptide of type III procollagen (PIIINP).

PIIINP assays are not specific for a particular disease but reflect the altered metabolism of type III collagen. Patients whose Liver function tests and PIIINP levels are consistently normal are very unlikely to have significant liver damage, and liver biopsies may be restricted to the small group of patients in whom PIIINP levels are repeatedly elevated (i.e. greater than 4.2 ng/ml for the Orion assay). Continually raised PIIINP concentrations were found to be associated with fibrosis in 78–100% cases, but were only seen in 15–18% of subjects with normal liver biopsy.
PIIINP assay should be performed prior to starting methotrexate and subsequently be checked every 2–3 months during continued treatment. Liver biopsy should then be considered only for those patients with persistently elevated concentration.

PIIINP is currently available in Australia as UniQ PIIINP Radioimmunoassay kit (Orion diagnostica, Finland). There is increasing evidence to suggest that it is becoming an attractive screening tool prior to liver biopsy. A screening program for patients on Methotrexate is being developed at the Department of Dermatology Liverpool hospital in Western Sydney.

Development of a specific quality of life score for patients with pemphigus
S.N. Chee, L.K. Martin, D.F. Murrell
1Department of Dermatology, St George Hospital, Sydney, New South Wales
2University of New South Wales, Sydney, New South Wales

Measurement of the impact of a disease on Quality of Life (QOL) is of upmost importance in dermatology. It is an important outcome for evaluating effectiveness of care and for capturing aspects of patients’ health status that may not correlate with clinical severity as assessed by dermatologists but are relevant for the patients. There have been only two previously published studies on the quality of life of patients with pemphigus. One study by Terrab et al. in 2005, used the 36-Item Short-Form Survey (SF-36), which is a generic health measure. The other study by Mayrshofer et al., 2005, used the Dermatology Life Quality Index (DLQI) which is broadly applied to measure QOL in all skin diseases, although this has problems with content validity in pemphigus. There is little evidence regarding the treatment of pemphigus and treatment is associated with high morbidity, so there is a need for patient-based measures to assess both efficacy and patient acceptability of interventions.

To develop the Quality of Life in Pemphigus (QOLIP) Questionnaire, non-structured face-to-face interviews were conducted with pemphigus patients and 130 items were recorded. These items were incorporated in a pilot questionnaire which was distributed to patients for subjective feedback. Subsequently, the modified final QOLIP will be distributed to a broader group of pemphigus patients and validated against existing measures of function, depression and anxiety and tested for repeatability. As a validated patient-based disease specific measure, the QOLIP is a useful tool to monitor response to treatment in clinical trial settings.
A comparison of dermatology life quality index (DLQI) scores in a dermatology practice setting
S.N. Chee1,2, L.M. Rhodes1,2, D.F. Murrell1,2
1Department of Dermatology, St George Hospital, Sydney, New South Wales
2University of New South Wales, Sydney, New South Wales

While skin diseases are rarely life threatening, their impact on a patient’s quality of life (QOL) can be massive. The Dermatology Life Quality Index (DLQI) was developed by Andrew Findlay and provides a simple method of scoring the impact of skin disease on quality of life (QOL). There are 10 questions covering symptoms and feelings, daily activities, leisure, work and school, personal relationships and treatment. Each question has four possible responses: ‘not at all’, ‘a little’, ‘a lot’ or ‘very much’ with scores of 0, 1, 2 and 3 respectively. ‘Not relevant’ is also scored as 0. The DLQI is then calculated by adding the scores of each question, giving a maximum of 30 and minimum of 0. The higher the score, the greater the level of impairment of QOL. Since May 2006, 556 new patients attending a private dermatology practice have been prospectively asked to complete a DLQI questionnaire on every visit. The mean DLQI for all patients was 5.5, for acne patients was 4.7, for alopecia 2.7, eczema 10.2, psoriasis 10.6, rosacea 4.3, skin checks 0.7, vitiligo 3.7 and bullous disease 9.2. Differences in QOL depending upon age, gender, and severity of disease at presentation have also been observed. The baseline data for new patients and their follow up DLQI scores are being evaluated as a clinical outcome measure.

Neutrophilic dermatosis of the dorsal hands with extracutaneous involvement
M.W. Chia, Y.K. Tay
Division of Dermatology, Changi General Hospital, Singapore

Neutrophilic dermatosis of the dorsal hands (NDDH) is a recently described clinical entity and an evolving disease concept. The clinical presentation, laboratory data, histologic features, and response to corticosteroid therapy suggest that it is a localized variant of Sweet syndrome or atypical pyoderma gangenorum. We report a case of NDDH in a 55-year-old man with associated myelodysplasia. He was also found to have multiple aseptic suppurative right cervical lymph nodes after extensive work-up for infection returned negative. The cervical abscess did not respond to antibiotic therapy, but healed promptly with corticosteroid therapy. This is the first NDDH case reported with extracutaneous neutrophilic infiltrate. Clinical awareness that neutrophilic dermatoses may present uniquely or predominantly on the hands, and recognition of its potential associated diseases are essential in initiating an appropriate work-up, leading to earlier diagnosis and treatment of an associated occult malignancy or systemic disorder.
Outcomes of 12 pregnancies in 3 patients with recessive forms of epidermolysis bullosa
S.D. Choi¹, Y.C. Kho², L.M. Rhodes¹, M.G. Chapman¹, D.F. Murrell¹²
¹Department of Dermatology, St George Hospital, Kogarah, New South Wales
²Department of Women’s Health, St George Hospital, Kogarah, New South Wales
³University of New South Wales, Sydney, New South Wales

Epidermolysis bullosa (EB) is a heterogeneous group of inherited skin blistering disorders caused by mutations in genes that encode various basement membrane components. Recessive forms of EB, particularly junctional and recessive dystrophic EB, tend to be very severe, with high mortalities. Pregnancies in this population are therefore the exception and the outcome of such pregnancies has only been reported twice before. We report 3 further cases who had 12 pregnancies from our EB Registry population in Australia.

Case 1 has non-Herlitz junctional EB and had been advised elsewhere that her EB would flare up due to the pregnancy and had a termination of pregnancy (TOP). With her subsequent non-sanguineous pregnancy, we advised that she could carry the pregnancy to term. Mutation studies identified two heterozygous LAMB3 mutations. She gave birth by normal vaginal delivery (NVD) to a normal baby boy who was an obligate carrier.

Cases 2 and 3 are two sisters with generalized recessive dystrophic EB. Case 2 had three children and Case 3, five, by NVD, with no obstetric complications. Both mothers, now in their 70s, had mitten hand deformities and widespread skin lesions, however these were not worsened by pregnancies.

Hence, pregnancy in recessive forms of EB need not be a reason to recommend TOP. We are conducting a survey of pregnancies of EB patients in Australia and their obstetricians to expand the knowledge of this area.

Retrospective evidence on outcomes and experiences of pregnancy and childbirth in epidermolysis bullosa in Australia
S.D. Choi¹, A.M. Shipman¹², Y.C. Kho¹², L.M. Rhodes¹, M.G. Chapman¹, D.F. Murrell¹²
¹Department of Dermatology, St George Hospital, Kogarah, New South Wales
²University of New South Wales, Sydney, New South Wales
³Department of Women’s Health, St George Hospital, Kogarah, New South Wales

There has been little focus in the literature on the impact of Epidermolysis Bullosa (EB) upon the experiences and outcomes of pregnancy in these patients. This project aims to collate the experiences through surveying obstetricians and EB patients to provide a basis for peri-obstetric advice in relation to EB.
195 out of 1346 obstetricians in Australia who responded to the survey, only 14 encountered mothers or babies born with EB. These obstetricians all recommended normal vaginal delivery; however one performed an elective Cae-
sarean section, at the patient’s request, which resulted in a post-operative wound infection.

34 mothers of children affected by EB (15 with EB Simplex, 4 with Junctional EB, 7 with Dominant Dystrophic EB, 5 with Recessive Dystrophic EB, and 3 Unclassified) and 14 affected mothers (10 with EBS, 1 with JEB, 1 with DDEB and 2 with RDEB) have currently replied to their respective questionnaires. The mothers with EB reported no worsen-
ing of their EB due to their pregnancies. Those who have had episiotomy and/or vaginal tearing reported that they have healed well. Those mothers who gave birth to a baby with EB reported no more adverse events in these pregnan-
cies compared to their other pregnancies.

Therefore, it appears that having EB does not correspond to higher risk of pregnancy-related complications. A normal vaginal delivery has a good outcome. Awareness of this data amongst obstetricians and dermatologists would lead to informed advice and improved quality of care for mothers and babies affected with EB alike.

A clinically distinctive exanthem presenting in two, adult, HIV and Hepatitis B co-infected men
M. Whitfeld1,2, R. Cocciolone1,2, A. Morey3

1Skin and Cancer Foundation, Darlinghurst, New South Wales
2Department of Dermatology, St Vincent’s Hospital, Sydney, New South Wales
3Department of Anatomical Pathology, St Vincent’s Hospital, Sydney, New South Wales

Two unrelated, adult, HIV and Hep B co-infected males presented during the same clinic with 3 and 19 month his-
tories of developing multiple non-blanchable, erythematous macules, surrounded by a pale halo, predominantly involv-
ing the arms, trunk and face. Individual lesions had resolved and new ones appeared throughout the duration of the rash. The lesions were largely asymptomatic and there were no recognised prodromal events, although one patient had fevers and sweats throughout the period of the exanthem.

Histopathology showed a mild to moderate perivascular lymphocytosis in the upper to mid reticular dermis with some red cell extravasation and scant eosinophils suggestive of a viral exanthem. Preliminary immunohistochemical staining using HepB sAb was weakly positive in the dermal vessels of lesional skin of both patients suggestive of the presence of Hepatitis BsAg in those sites. Further biochemi-
cal and serological studies were unable to ascertain another
aetiology for this clinically distinct exanthem. The lesions resolved spontaneously in both patients over the next 6 months.

We propose that this exanthem may be due to hepatitis B in association with HIV infection. Hepatitis B has been associated with other exanthems including Gianotti-Crosti, and the prolonged duration and distinctive appearance may be due to the HIV co-infection.

The concept of clinically distinct, paraviral eruptions is relatively new1. Well recognised clinical entities include Gloves and Socks Syndrome, Gianotti-Crosti Syndrome and Pityriasis Rosea. These exanthems are easily recognised with a known prognosis and evolution. While some of these eruptions may also be caused by medications and systemic disease there is a steadily accumulating body of evidence to support a virally mediated, trigger mechanism. The concept is based on there being a preceding viral infection, or latent reactivation, that causes a host response to the viral antigens in the skin, rather than a direct virus related, cytopathic effect. The mechanisms which facilitate these reactions remain to be elucidated.

Reference

A review of treatment modalities in cutaneous carcinoma demonstrating perineural invasion
K. DeAmbrosis, B. De’Ambrosis
Brisbane, Queensland

Introduction: Perineural invasion denotes tumour extension by growth in and around a nerve, and is observed in less than five percent of patients presenting with carcinoma of the skin. Tumours that exhibit this form of invasive potential are associated with higher rates of recurrence, morbidity and mortality. The purpose of this study is to review the treatment modalities implemented and the resulting outcomes in fifty patients with clinical and/or microscopic evidence of perineural invasion from cutaneous skin cancer, predominantly basal cell carcinoma.

Method: A retrospective case series was performed of fifty patients demonstrating perineural invasion associated with basal cell carcinoma, squamous cell carcinoma or keratoacanthoma identified between 1996 and 2007. Diagnosis was performed via histological analysis with a dominance of basal cell carcinoma within the patient group studied.

Treatment modalities compared included surgical excision, Mohs micrographic surgery, radiotherapy and a combination of these approaches. Parameters evaluated included patient demographics, tumour type, histological classification of malignancy, site, size and number of nerves involved, location of perineural invasion in relation to primary tumour, surgical excision type, the presence or
absence of radiotherapy implementation and follow up time.

Results: Long term disease free survival in skin carcinoma demonstrating perineural invasion is attainable utilising multifactorial treatment modalities. This case series suggests prognostic predictive indicators, including histological BCC subtype and size of nerve associated with perineural spread. The data from this case series aims to source a trial aimed at formulating treatment guidelines for skin carcinoma displaying perineural invasion.

References


Treatment of refractory pyoderma gangrenosum with intravenous immunoglobulin
S.E. de Zwaan1, H.J. Iland2, D.L. Damian1,3
1Department of Dermatology, Royal Prince Alfred Hospital, Camperdown, New South Wales
2Department of Haematology, Royal Prince Alfred Hospital, Camperdown, New South Wales
3Dermatology, University of Sydney, Camperdown, New South Wales

Pyoderma gangrenosum (PG) is a neutrophilic dermatosis which is often associated with systemic disease such as inflammatory bowel disease, arthritis, or haematological malignancy. PG often develops rapidly, is associated with considerable pain and is characteristically steroid-responsive. A 54 year old farmer presented with a 4 year history of treatment-resistant lower leg PG on a background of chronic myeloid leukaemia, which was in complete cytogenetic (but not molecular) remission on imatinib mesylate. High dose prednisone (50 mg/day) was required to stabilise the ulcer, causing steroid-induced insulin-requiring diabetes. Mycophenolate with cyclosporin enabled a lowering of the steroid dose to 15 mg daily, but was complicated by renal impairment, pneumonia, near-fatal sepsis and cryptococcal meningitis. Other steroid-sparing agents were ineffective, including azathioprine, potassium iodide, dapsone, topical tacrolimus and topical steroids and minocycline. Intravenous immunoglobulin (IVlg) is derived from activated B cells and obtained from pooled plasma and
is thought to have multiple immunomodulatory effects. Only 8 cases of treatment of PG with IVIg have been previously reported. Our patient was given 30 g of Octagam daily for 5 days (2 g/kg total) which was tolerated well. This treatment was repeated monthly for 4 consecutive months. Our patient’s ulcer rapidly reduced in size, his pain resolved, and his prednisone was able to be reduced to 7 mg daily with resolution of his diabetes. He is now able to return to work on his farm. This case illustrates that IVIg should be considered for the treatment of refractory PG where steroid-sparing agents have failed or are contraindicated.

Quality of life evaluation in epidermolysis bullosa: Development of the QOLEB questionnaire
L Frew1, L. Martin2, D.F. Murrell1,2
1University of New South Wales, Sydney, New South Wales
2Department of Dermatology, St George Hospital, Kogarah, Sydney, New South Wales

Background: Epidermolysis Bullosa (EB) has a profound effect on quality of life; however generic QOL assessments are poor indicators of the impact of EB.

Objective: To develop a valid and reliable EB-specific QOL tool for use in measuring the effects of disease impact and interventions.

Design: Open, non-structured interviews were conducted with 26 EB patients, along with 33 family members and 11 health professionals (70 individuals) for item generation. A pilot questionnaire was compiled, refined and the final questionnaire was assessed for repeatability and validity.

Main outcome measure: Discriminative validity was assessed by differences in scores between EB subtypes. Content validity was assessed by expert ranking of items in terms of importance. Construct validity was evaluated by correlation with existing QOL tools. Test-retest repeatability and internal consistency were evaluated.

Results: The QOLEB was able to accurately distinguish different EB subtypes, and correlated highly with existing QOL instruments (Cronbach’s Alpha = 0.933).

Conclusion: The QOLEB is the first EB-Specific QOL measurement tool, which is a valid and reliable measurement tool for the quantification of QOL in patients with various subtypes of EB. In addition, the QOLEB has potential as a sensitive instrument to monitor QOL, and to identify dimensions of QOL as targets for interventions and research.
Lactobionic acid, a bionic acid enhances skin clarity and provides skin plumping and firming effects
B.A. Green, B.L. Edison, R.H. Wildnauer
NeoStrata Company, Inc., Princeton, New Jersey United States of America

Lactobionic acid has numerous beneficial properties due to its poly hydroxy bionic structure and its known antioxidant effects, making it ideal for use in skin care. The compound is an excellent humectant, is non-irritating to skin and provides skin smoothing and moisturisation benefits. It is capable of forming thin films on skin, which provide unique aesthetics to a topical formulation. A constituent of lactobionic acid, gluconic acid, has been extensively shown to provide anti-aging effects when incorporated into formulations as gluconolactone. In addition, lactobionic acid combined with gluconolactone has been shown to provide anti-aging effects. However, the effect of lactobionic acid alone on anti-aging parameters has not been fully determined.

Objective: A study of an 8% lactobionic acid cream was conducted to evaluate the anti-aging effects of lactobionic acid.

Method: Women (aged 35-60 years, Fitzpatrick type I-III) having moderate photodamage completed this twelve-week, controlled use study with comparisons to baseline conditions. Clinical assessments were performed at each study visit (weeks 0, 6, and 12) including: visual grading of photoaging parameters and irritation by a trained clinical assessor, self-assessment, and pinch recoil as a measure of firmness. Skin plumping measurements and biopsies were taken of treated and untreated skin.

Results: Significant improvements in the signs of photoaging were observed after 6 and 12 weeks of use.

The development of low irritant cleansers
K.A. Greive, A.H. Lui, V.M.J. Oppenheim
Ego Pharmaceuticals, Braeside, Victoria

Patients with dry itchy skin conditions need specialist cleansing products designed with their particular needs in mind. To ensure patient compliance, a cleanser must be cosmetically acceptable; for many patients this includes foaming properties. A cleanser must have the appropriate pH, leave the skin feeling clean but not tight and dry, and above all it must be proven low irritant.

The development of a cleanser for those with dry skin conditions must be done with consideration and appropriate testing. The selection of moisturisers, surfactants, preservatives and thickeners must be done with meticulous care, what is left out of the formulation is just as important as what is put in.
QV Gentle Wash has been developed with compromised skin as the primary concern. QV Gentle Wash contains 15% glycerin, an humectant with proven benefits for dry skin conditions, and a combination of non-soap surfactants designed to help maintain the natural pH balance of the skin.

QV Gentle Wash was tested neat, using the human repeat insult patch test, and found to be non-irritating and non-sensitizing.

In-use testing in a relevant population experiencing dry skin conditions such as eczema, found QV Gentle Wash to be moisturising, cleansing, soothing and gentle. QV Gentle Wash was found to not only help maintain the skin, but also improve the skin’s condition.

QV Gentle Wash is a low irritant, gently foaming cleanser highly suitable for those with dry skin conditions such as eczema, dermatitis and psoriasis.

An improved approach to relieving atopic eczema
K.A. Greive, V.M.J. Oppenheim
Ego Pharmaceuticals, Braeside, Victoria

Atopic eczema is a chronic, relapsing, itchy, superficial inflammation of the skin, affecting 10–20% of children and 1–3% of adults. Studies have shown the etiology of atopic eczema to be complex; the result of environmental factors, pharmacological abnormalities, skin barrier dysfunction, genetics and immunology. Staphylococcus aureus has a greater affinity for atopic skin than normal skin with more than 90% of patients with atopic eczema having very high colonisation rates of Staphylococcus aureus on their skin, both in the lesions and on the lesion free skin. Staphylococcus aureus produces immunomodulator toxins, or superantigens, which are capable of modifying the T-cell response resulting in increased inflammation of the eczematous lesions.

It has been shown that a reduction in skin Staphylococcus aureus levels is accompanied by an improvement in atopic eczema, with the use of antiseptic bath oil resulting in significant and sustained improvements. Anti-bacterial bath oils are very potent products and must be diluted prior to use. However in the hope of a faster resolution parents and patients are known to add excess product to the bath. As a result patients have suffered irritant skin reactions to the excess anti-bacterial bath oil.

QV Flare Up Bath Oil is an antibacterial bath oil for the relief of atopic eczema. It has recently undergone a reformulation in order to reduce the irritancy risk to the consumer from product overdosing.
Local anaesthetic allergy
T. Gunson

Department of Dermatology, Greenlane Clinical Centre, Auckland, New Zealand

The use of local anaesthetic agents is common in dermatology practice for both diagnostic and therapeutic procedures. Although true local anaesthetic allergy is rare, a structured approach to the evaluation of a patient complaining of a local anaesthetic reaction is required in the interests of patient comfort and safety. Non-allergic adverse reactions account for the majority of symptoms and can be divided into four categories: psychosomatic, acute systemic toxicity, systemic adrenaline effect, and an allergic or non-allergic reaction to an associated agent. A detailed and accurate history is crucial, and will usually determine the required investigations. After the appropriate use of patch and intra-dermal testing, it is almost always possible to identify an alternative agent that will be tolerated for future procedures.

Tattoo reaction to red and blue tattoo with infundibulocystic hyperplasia simulating a Keratoacanthoma
A. Herat, D. Weedon, S. Kossard, J. Muir

1Dermatology Department, Greenslopes Private Hospital, Greenslopes, Queensland
2Sullivan and Nicolaides Pathology, Brisbane, Queensland
3Skin and Cancer Foundation Australia, Sydney, New South Wales
4South East Dermatology, Carina, Queensland

We report a case of a pseudoepitheliomatous tattoo reaction to red and blue areas of a five week old tattoo. Biopsy showed prominent infundibulocystic hyperplasia which shared features with a keratoacanthoma. The reaction was treated effectively with topical steroid creams under occlusion. The pseudoepitheliomatous hyperplasia settled over a period of two months with transepidermal elimination of pigment without gross changes to the underlying tattoo. The previous tattoos, in which the apparently same dyes have been used by the same tattooist, had no reactions.

This case illustrates an uncommon form of tattoo reaction with pseudoepitheliomatous hyperplasia with a prominent infudibulocystic component producing keratoacanthoma like features. This particular reaction pattern may represent the transepidermal elimination of foreign material or a reaction to trauma, rather than a hypersensitivity reaction. This histological pattern needs to be distinguished from
keratoacanthoma or squamous cell carcinoma, each of which can rarely complicate tattoos, particularly as topical corticosteroid therapy can be effective and avoid unnecessary surgery.

A distinctive pattern of dermatitis artefacta
S. Hill¹, A. Oakley¹, M. Rademaker¹, A. Yung¹, P. Heron²
¹Department of Dermatology, Waikato Hospital, Hamilton, New Zealand
²Department of Paediatrics, Waikato Hospital, Hamilton, New Zealand

A 13-year-old girl of Indian heritage had repeated admissions to hospital with crops of painful lesions on her left arm, left leg, abdomen and face, accompanied by bizarre behaviour. Discrete hyperpigmented patches 10–40 mm in diameter, of various shapes, would appear suddenly (over 10 minutes); some were superficially blistered. The lesions were reported as being intensely painful; the child was sent home from school on several occasions. The lesions would heal with post-inflammatory pigmentation over several days. Her past medical history included mild asthma and an appendicetomy.

The clinical differential diagnosis included fixed drug eruption, Sweets syndrome, pyoderma gangrenosum, embolic disease and dermatitis artefacta. Extensive medical investigations were non-contributory. All medications were stopped and she was treatment empirically with penicillin, intravenous immunoglobulin and high dose prednisone with no benefit. A skin biopsy showed non-inflammatory damage to the epidermis consistent with external thermal or physical injury.

A volunteer of the same skin type was able to produce similar lesions by repeated spraying of a salbutamol inhaler onto the skin. Following psychiatric review, the patient admitted to self-inflicting the lesions with a salbutamol inhaler. Psychosocial stressors were identified and counseling commenced. No further lesions have occurred.

The prevalence of bacterial resistance in patients with atopic dermatitis attending a dermatology clinic
S. Hill, M. Rademaker, A. Yung
Department of Dermatology, Waikato Hospital, Hamilton, New Zealand

Introduction: Many patients with Atopic Dermatitis (AD) have frequent exacerbations and some clinical trials suggest a link between heavy skin bacterial colonization and severity of AD. The aim of this study was to assess the prevalence of bacterial resistance in patients with Atopic Dermatitis (AD) attending a specialised dermatology clinic and determine the risk factors which might predict such resistance.
Design: Patients with AD attending outpatients at a tertiary public hospital dermatology clinic from March until October 2007 were included. A questionnaire including demographic and social data was completed. Current and previous systemic and topical treatments were recorded. Patients were examined and extent of AD determined (SCORAD). Two skin swabs were taken for culture and standard sensitivities; one from a standardised site (ante-cubital fossa) and one from the worst area of AD. SCORAD and heaviness of Staphylococcus aureus culture were correlated.

Results: 82 patients were enrolled. 36 male, 46 female, mean age 8 years with range from 3 months to 45 years. Of 61 (74%) patients with +ve swabs, 58 (95%) grew Staphylococcus aureus. 12 patients (15%) were found to have bacterial resistance: 9 patients to erythromycin (sensitive to flucloxacillin) and 3 patients were MRSA. Patients with bacterial resistance did not have any identifiable demographic or clinical features in common.

Conclusions: No significant bacterial resistance to standard oral antibiotic therapy was observed. The severity of AD, and difficulty in managing the patient, did not correlate with presence of staphylococcus aureus.

HIV-related lipoatrophy: Response to blood as an injectable filler
R. Howes¹,², A. Lim³, M.J. Whitfield¹

¹Department of Dermatology, St Vincent’s Hospital, Darlinghurst, New South Wales
²Skin and Cancer Foundation, Darlinghurst, New South Wales
³Urepublic Cosmetic Skin and Laser Clinic, Sydney, New South Wales

We present the case of a 62-year-old man with severe HIV-related lipoatrophy manifesting as a hollowness of the cheeks. This resulted in an increasingly gaunt appearance despite his improving health status. He also had numerous cutaneous osteomas on the face, chest and back, secondary to ongoing mild acne and acne rosacea. Injectable foreign fillers were not administered because there was concern that these may promote osteoma formation. Interventions, including alteration of his HIV medication regime, introduction of oral hypoglycaemic agents, and autologous fat transfer, did not result in any sustained improvement in his clinical appearance.

Injection of autologous whole blood (AWB) and therapeutic undermining of scars have been described as techniques for the treatment of indented or atrophic scars. In addition to having a space-occupying effect, injected blood may clot, and if the clot persists for long enough, collagen deposition may occur. It is likely that the effect of undermining
involves some degree of bleeding, trauma-induced activation of the coagulation cascade and subsequent collagen deposition, in addition to freeing of bound-down tissue. These techniques have not been applied to the treatment of contour defects associated with lipoatrophy.

Our patient received 10 monthly subcutaneous (sc) injections of AWB. The sclerosant sodium tetradecylsulfate (fibrovein) was injected (sc; 0.1% solution) immediately prior to blood to promote inflammation-induced activation of the coagulation cascade. Anaesthesia was achieved with a dental block. This technique was well tolerated with minimal discomfort, did not cause cutaneous osteoma formation, and resulted in significant visible improvement after several treatment sessions. In fact, the patient claimed to notice an improvement after the first treatment. Subsequent treatment was modified to incorporate a dermal undermining technique (dermacision), instead of sc sclerosant injection. A 16-gauge needle was inserted into the reticular dermis with a fanning motion to cause controlled dermal injury. This was followed by the sc injection of AWB. This method was again well tolerated with minimal surface bruising and discomfort, and did not produce cutaneous osteomas. In addition, the clinical response appeared greater, was evident after a shorter time period, and persisted for longer, than was observed using the sclerosant plus AWB. Thus, combining the techniques of dermacision and sc AWB injection offers a novel and effective approach to the treatment of lipoatrophy in HIV-related, and possibly HIV-unrelated, cases.

References

Severe linear IgA disease with extensive reactive lymphadenopathy
N. Jung, M.L. Lee
Department of Dermatology, Royal North Shore Hospital, St Leonards, New South Wales

We report a case of a 61 year old male with severe linear IgA bullous dermatosis with extensive lymphadenopathy. There is an increased incidence of lymphoproliferative disorders in adults with linear IgA disease, however in this patient lymph node biopsy showed non-specific reactive changes only. Dapsone therapy did not slow the progression of blistering and was complicated by haemolytic anaemia. Treatment with high dose oral prednisone resulted in rapid resolution of the blistering. In view of the widespread lymphadenopathy and remarkably quick recovery, an infective trigger is postulated.
Spontaneous resolution of a delayed granulomatous reaction to cosmetic tattoo

B. Jones, C. Oh, C.A. Egan

Department of Dermatology, Our Lady of Lourdes Hospital, Drogheda, Ireland

Granulomatous reactions to decorative tattoos have been widely described but are rarely described to cosmetic facial tattoos or semi-permanent make-up application. A Caucasian woman presented with linear, flesh-colored papules along her vermilion borders, 4 years after a cosmetic lip tattoo was applied. A biopsy of the lesion was performed and histology showed it to be a granulomatous reaction surrounding the tattoo pigment. Following the biopsy, the lesions began to resolve spontaneously within 4 weeks and were not clinically evident at a follow-up review. Granulomatous reactions are rare after cosmetic facial tattoos and may respond to topical corticosteroids or laser ablation. We present a unique report of a delayed granulomatous reaction to a cosmetic tattoo completely resolving without any specific treatment.

Demographic data from the Australasian Epidermolysis Bullosa Registry

Y.C. Kho1,2, A.L.C. Agero1, L.M. Rhodes1,2, G. Varigos3, J. Su4, D. Orchard1, D.F. Murrell1,2
1Department of Dermatology, St George Hospital, Sydney, New South Wales
2University of New South Wales, Sydney, New South Wales
3Royal Children’s Hospital, Melbourne, Victoria

Epidermolysis bullosa (EB) refers to a heterogeneous group of inherited genodermatoses characterised by the excessive susceptibility of the skin to separate from underlying tissues following mechanical trauma. The clinical spectrum of severity for individuals with EB ranges from an inconveniencing predisposition to blistering through to producing debilitating morbidity and early mortality. Sufferers of the severe Hallopeau-Siemens variant of Recessive Dystrophic EB (RDEB-HS) have a 50 fold increased risk of developing squamous cell carcinomas compared to age matched controls.1 Additionally, in the Herlitz variant of Junctional EB (JEB-H), death usually occurs within the first two years of life predominantly from overwhelming mucocutaneous fragility and secondary infections. While EB registries exist in the USA, Germany, the Netherlands and Italy, no epidemiological data to date has been collected for the Australasian cohort living with the condition. To address this, a registry has recently been established at St. George Hospital, currently containing data for 231 Australasian patients from 184 families. 117 of those diagnosed with EB are male
(51%), whilst the remaining 114 are female (49%). 52% of the patients have EB Simplex, EBS (n = 120); 36% have Dystrophic EB, DEB (n = 83); and 12% have Junctional EB, JEB (n = 28). Further subtypes include EBS Dowling-Meara (n = 22), EBS Koebner (n = 11), EBS mottled pigmentation (n = 5), RDEB-HS (n = 16), RDEB-non-HS (n = 9), JEB-H (n = 10), JEB-nonH (n = 12), JEB with pyloric atresia (n = 3), and JEB-laryngo-onycho-cutaneous syndrome (n = 1). The patient ages range between 0 to 98 years, with a median age of 17 years.

Reference

Clinical outcomes of Herlitz junctional epidermolysis bullosa: Findings of the Australasian Epidermolysis Bullosa Registry

Y.C. Kho1,2, S. Robertson3, A.L.C. Agoro1, L.M. Rhodes1,2, G. Varigos1, J. Su1, D.F. Murrell1,2
1Department of Dermatology, St George Hospital, Sydney, New South Wales
2University of New South Wales, Sydney, New South Wales
3Royal Children’s Hospital, Melbourne, Victoria

Junctional Epidermolysis Bullosa (JEB) is an inherited genodermatosis, characterised by blister formation at the level of the lamina lucida following minimal mechanical trauma. Homozygous premature termination codon mutations in any of the LAMA3, LAMB3 or LAMC2 genes lead to the degradation of the polypeptide products and give rise to the Herlitz variant of JEB (H-JEB). H-JEB frequently manifests in early infant death due to overwhelming mucocutaneous fragility and secondary infections. Extracutaneous disease additionally occurs, affecting a number of different organs and body systems. An Australasian EB registry recently established at St. George Hospital currently holds data for 10 patients diagnosed with Herlitz JEB since 1998; their ethnicities were Caucasian, Lebanese and Chinese. All have expired with a mean age of death as 6.8 months (age range, 2–13 months). Causes and contributing factors of death included severe malnutrition, anaemia, failure to thrive, electrolyte imbalances, sepsis, toxic shock, pneumonia, gastrointestinal haemorrhages and multi-system organ
failure. Clinical outcomes and complication rates have also been recorded within this cohort, including data on gastrointestinal, tracheolaryngeal, facial, oral, external eye, nail and genitourinary involvement. Additionally, regular blood results and data on growth and development are available. Death in these infants occurred despite tracheostomy and gastrostomy, as these did not resolve complications arising from the fragile internal mucosa. Hence, a non-interventional approach had been adopted in the management of these patients.

Device to monitor nocturnal scratching of children with eczema

G. Lang¹, M. Aldeen¹, G. Varigos², L. Moore², E. King²
¹Department of Electrical & Electronic Engineering, University of Melbourne, Victoria
²Department of Dermatology, Royal Children’s Hospital, Melbourne, Victoria

Introduction: A known marker of eczema disease activity is itch. One approach to measuring itch is to measure its objective correlate, scratch.¹ For this purpose, a device was developed to measure the nocturnal scratching of children with eczema. The device is suitable for in-home use.

Method: The patient’s movement is monitored using a thermal motion sensor and wrist-based wireless accelerom-eter. An algorithm processes data from these sensors to identify scratching. The results are stored for graphical presentation to the physician and shown in real-time on the screen for the patient.

Results: The device was tested successfully on a child with mild eczema. Further trials will be conducted by the Royal Children’s Hospital.

Reference


Rhinophyma – Carbon dioxide laser is still a good treatment option

S.W. Lim¹, P. Bekhor²
¹Department of Dermatology, Austin Hospital, Victoria
²Laser Dermatology, Victoria

Rhinophyma is a cosmetically deforming disorder characterized by nodular hypertrophy of the nasal soft tissue. Treatment of rhinophyma includes surgical excision or laser ablation of the associated tissue deformity. Newer technologies such as Erb:YAG lasers are increasingly used¹,²
but we present 8 patients treated with a Sharplan Feather-Touch carbon dioxide laser with good results and no complications.

References


Cutaneous protothecosis – Case report and review
M. Liu, M. Vestergaard, P. Lowe, W. Weninger
Royal Prince Alfred Hospital, Camperdown, New South Wales

We present the case of a 71 year old Caucasian man with cutaneous Protothecosis of the right forearm. He had been treated with oral prednisone for a diagnosis of nephritis since 2001. The patient could not recall any trauma to the right forearm which preceded the infection. Clinical improvement was noted after gradually reducing the oral prednisone dosage and commencing oral itraconazole.

Protothecas is an achlorophyllic algae which is a rare cause of infection in humans. This can produce a cutaneous infec-

tion often after trauma, but rarely causes systemic infections. The usual clinical appearance is of a chronic low grade inflammation. Treatment options include intravenous amphotericin, oral itraconazole or fluconazole.

Vitamin D deficiency in Sydney skin cancer patients
A.-M. McCombie¹, R.S. Mason², D.L. Damian¹
¹Dermatology, Sydney Cancer Centre, University of Sydney at Royal Prince Alfred Hospital, Camperdown, New South Wales
²Department of Physiology, University of Sydney, New South Wales

Regular use of a high-SPF sunscreen helps to protect the skin from the immunosuppressive and photoageing effects of UV radiation and can significantly reduce numbers of actinic keratoses and squamous cell carcinomas. There is however growing concern that the sun protection message may be causing vitamin D deficiency in both children and adults, with consequences not only for bone health, but also for cardiovascular and autoimmune disease and for the risk of internal malignancies. Although some studies have found no significant vitamin D deficiency in regular sunscreen users, others have suggested that deficiency may be frequent in the general population, especially in Victoria and Tasmania. The extent of vitamin D deficiency in skin cancer patients in Sydney is not yet clear. We measured serum 25
hydroxyvitamin D (25-OHD) levels in 25 skin cancer patients, by taking blood samples both at the end of summer (February) and also at the end of winter (August). We found that although 95% of patients had serum 25-OHD >50 nmol/L during the summer months, 46% of patients were vitamin D deficient by the end of winter. These results underline the importance of assessing vitamin D status in this group of patients, who may need either low level sun exposure to less critical (nonfacial) areas of skin, and/or oral vitamin D supplementation. In these patients, it may be more informative to measure 25-OHD levels during winter.

This study aims to further investigate associated factors in order to improve risk assessment for patients with Melanoma.

Method: Data was collected from a series of 95 patients seen by one private Dermatologist in South East Queensland who had history of multiple primary Melanomas. Information on multiple factors was obtained through a review of medical notes, previous histology reports, and telephone interviews with each subject. Data was collected on environmental factors, history of other skin cancer and other internal malignancy, and the histological details of all Melanomas.

Results: Nearly all patients had spent most of their life in South East Queensland. They often reported a tendency to sunburn and poor tanning ability. The majority reported a history of over 15 severe sunburns. Patients had a high risk of multiple Basal Cell Carcinomas. Few patients had multiple naevi or dysplastic naevus syndrome. Patients reported high vigilance in self surveillance of skin lesions, and subsequent melanomas were often found by the patient.

Risk factors for multiple primary melanoma
E. McMeniman1, B. De’Ambrosis2
1Dermatology Department, Mater Misericordiae Hospital, Brisbane, Queensland
2South East Dermatology, Brisbane, Queensland

Introduction: The risk of multiple primary Melanomas may be increased by several genetic and environmental factors. While the overall incidence of Melanoma has continued to increase in Australia, it appears that the earlier detection of Melanomas has improved the mortality rate. It has been previously reported that after one primary melanoma the risk of developing a second primary melanoma is around 4%. Several risk factors for developing multiple primary Melanomas have been discussed in the literature.
Ichthyosis follicularis, alopecia and photophobia (IFAP) syndrome: A large Australian kindred
A.G. Ming¹, G.O. Fischer²
¹Department of Dermatology, Prince of Wales Hospital, Randwick, New South Wales
²Department of Dermatology, Royal North Shore Hospital, St Leonards, New South Wales

IFAP is a rare genodermatosis. The gene has not yet been mapped. Most cases have been males without significant family history. We present the largest kindred of IFAP reported to date in the medical literature clearly demonstrating X-linked inheritance. We discuss clinical features and differential diagnosis. Our proband has benefited from treatment with acitretin.

Variation in the depth of excision of melanoma: A survey of US physicians
Y. Pan¹, M.K. Heneghan¹, J.A. Lieb¹, A.C. Halpern¹, A.A. Marghoob¹
¹Dermatology Service, Department of Medicine, Memorial Sloan-Kettering Cancer Center, New York, New York, United States of America
²Victorian Melanoma Service, The Alfred, Prahran, Victoria

Introduction: Although the lateral margins of excision recommended for the definitive surgical management of melanomas are fairly well standardized, the optimum depth of definitive melanoma excision remains controversial and current recommendations are not supported by evidence. We surveyed U.S. physicians to assess and compare their recommendations regarding the depth of excision they would utilize for melanomas of varying histologic thicknesses.

Method: A two-page, 13-question survey was sent to 1134 physicians (184 melanoma specialists, 950 non-melanoma specialists). Descriptive frequencies and percentages were used to characterize survey responses.

Results: The final study sample consisted of 492 completed surveys; response rates were 63% (115/183) for melanoma specialists and 41% (377/929) for non-melanoma specialists. There was no consensus among respondents on the surgical depth of definitive excision for melanoma. 84% of specialists and 82% of non-specialists would excise only to fat for in situ melanomas. Melanomas <0.76 mm in thickness, 58% of specialist and 32% of non-specialists would excise to the muscular fascia or deeper; melanomas 0.76-1 mm in thickness, 70% of specialists and 42% of non-specialists would excise to the muscular fascia or deeper; melanomas 1-2 mm in thickness, 84% of specialists and 62% of non-specialists would excise to the muscular fascia or deeper; melanomas >2 mm in thickness, 90% of specialists and 72% of non-specialists would recommend excision to the muscular fascia or deeper.
Conclusion: Considerable variability exists in the clinical practice regarding the appropriate depth of excision for the definitive surgical management of melanomas. A prospective, randomized controlled study examining the outcomes of patients with melanoma who have undergone excisions at various depths is necessary to help define the most appropriate surgical management for melanomas.

Multidisciplinary investigation and management of segmental haemangiomas
T.A. Phan1,2, S. Adams2,3, O. Wargon2,3
1South Western Sydney Clinical School, University of New South Wales, Kensington, New South Wales
2School of Women’s and Children’s Health, University of New South Wales, Kensington, New South Wales
3Sydney Children’s Hospital, Randwick, New South Wales

Haemangiomas of infancy are the commonest benign tumour in childhood. Approximately a fifth1 of these are of segmental subtype which confers a higher complication rate, associations with the PHACE or PELVIS syndrome and a poorer prognosis compared with localised haemangiomas of infancy. We have now updated data collected from a retrospective case series of 21 infants with segmental haemangiomas looking at their clinical presentations, associations, complication rates, and response to treatment2. In our series, 57% of infants with segmental haemangiomas develop at least one complication related to the lesion. 15% of those with facial segmental haemangiomas were associated with the PHACE syndrome. Early recognition and treatment with oral corticosteroids arrests the growth of segmental haemangiomas which reduces morbidity and complications associated with these haemangiomas. Compared to smaller localised haemangiomas that proliferate for weeks to months, larger segmental haemangiomas may continue to proliferate for over a year1. Hence treatment is often prolonged and complicated by secondary hypertension (40%), and growth suppression (50%). Segmental haemangiomas in special locations or those associated with subglottic haemangiomas almost always require lengthy systemic treatment. In such cases, other systemic therapeutic options such as vincristine need consideration. Multidisciplinary team assessment for the associated syndromes such as PHACE and PELVIS, and management of the complications associated with systemic therapy comprises our current standard of care.

References
Public health issue – The tainted tattoo tincture –
*Mycobacterium Chelonea*

V.A. Prada\(^1\), M. Maley\(^2\), J.R. Sullivan\(^1\)

\(^1\)Department of Dermatology Liverpool Hospital Sydney, NSW, Faculty of Medicine, University of New South Wales
\(^2\)Infectious Diseases Department Liverpool Hospital Sydney, NSW, Faculty of Medicine, University of New South Wales

A 32 year old man presented with worsening erythema, oedema, exquisite tenderness and subcutaneous nodules in patches of a large Maori tribal style tattoo over his upper arms and lower legs. Onset was over days and the tattooing occurred in a Sydney parlour 3 weeks prior. He was systemically well. Biopsy for histopathology and culture including deep fungi and mycobacteria were sent. Histopathology demonstrated granulomatous changes consistent with an infectious cause. The cultures were positive for *Mycobacterium chelonea* (M. Chelonea).

Inspection of the tattoo parlour sourced the M. Chelonea to an ink bottle that had been mixed using an industrial bolt which was left in situ. This had been used on multiple clients over a 1 month period. We are aware of 3 other individuals with similar reactions including the index’s father. Both had culture proven M. Chelonea.

Lab sensitivities showed the M. Chelonea isolate to be resistant to most antimicrobials therefore dual therapy of clarithromycin and moxifloxacin was commenced. Treatment was complicated by severe diarrhoea and abdominal pain.

To our knowledge, this case of documented M. Chelonea infection arising in a parlour acquired tattoo is unique. M. Chelonea cutaneous infections in surgical wounds and acupuncture have been described. Often the source is contamination by colonized tap water, though there have been reports of contaminated tissue marking agents used in surgery.

When assessing a patient with a tattoo reaction, M. Chelonea infection should be considered in the differential. Australia’s climate is also conducive to growth.

References

Medical education at the University of New South Wales (UNSW). Educating the educators to give lessons in life long learning
V.A. Preda, J.R. Sullivan
Liverpool Hospital Sydney, University of New South Wales, Sydney, New South Wales

With the exponential growth in medical knowledge and technology in addition to changing health delivery, medical school educators are faced with the enormous challenge of how to best equip students with the knowledge base and skills required on graduation. This is not only an issue for medical schools but also bodies concerned with specialist training.

The UNSW Faculty of Medicine introduced its new six-year modular program in 2004. The entry selection criteria also changed. Local students are now selected on the basis of: academic merit, Undergraduate Medicine and Health Sciences Admission Test (UMAT) and interview. The explicit aim is to graduate lifelong learners of medicine.

The UNSW program is integrated horizontally and vertically for greater correlation between science and clinical practice. All courses are interdisciplinary. Biomedical sciences are taught with the social and psychological sciences. The program is divided into 3 phases, organized broadly around the human life cycle. Teaching emphasises student autonomy, learning from experience and the development of adult teacher-learner relationships. Independent learning projects are now an integral part of the program introducing research and challenging old assumptions about student learning by encouraging active participation in the process of study and investigation.

Some students will have the opportunity to complete a dermatology rotation, which focuses on core principles reflecting internal medicine. However many future clinicians will be managing patients with a knowledge base of dermatology only from modules from a university website and self directed learning. Doubtless this will be seen as a coming change in referral patterns and management by referring doctors.

Demodex mites and dermatology
K. Shirato1, M. Whitfeld2-3, G. Cassis4
1Department of Dermatology, Royal Adelaide Hospital, Adelaide, South Australia
2Department of Dermatology, St Vincent's Hospital, Darlinghurst, New South Wales
3Skin and Cancer Foundation Australia, Darlinghurst, New South Wales
4School of Biological, Earth and Environmental Sciences, University of New South Wales, Sydney, New South Wales

* Demodex spp. are oval shaped, elongated mites found in the pilosebaceous unit of humans and animals. There has been
over 65 Demodex spp. described in association with mammals. Two types of Demodex are found in the human pilosebaceous unit, Demodex folliculorum and Demodex brevis. These species are differentiated morphologically and in terms of their habitat preference.

Knowledge of the lifecycle of Demodex spp. is limited. The life stages of Demodex consist of ova, larvae, protonymphs, nymphae and adults, with egg to adult development taking approximately 18–24 days. Demodex are known to consume follicular epithelial cells and sebum, which is suggested by their needle-like mouthparts.

Dermatologists have limited understanding of Demodex due to its apparent inert nature within the pilosebaceous unit of the human skin. There are however, cutaneous diseases, which have been associated with Demodex including demodicidosis, rosacea like eruptions and pityriasis folliculorum. Demodex infestation is persistent, but controlled by the host’s cutaneous immunity, with the number of Demodex per follicle being increased in immunocompromised hosts. In the field of veterinary medicine, Demodex has been shown to cause cutaneous conditions in other mammals, such as dogs. Furthering the biological knowledge about Demodex folliculorum and D. brevis and its relationship to cutaneous disorders provides an opportunity for novel and innovative cross-disciplinary research between dermatologists and acarologists.

Anti-p200 pemphigoid: A case with therapeutic challenges
A.W. Tan, J.S. Lee
National Skin Centre, Singapore

Case report: A 33-year-old Asian woman presented with non-pruritic papulovesicles on the face, extremities and buttocks. These lesions were both spontaneous and induced by friction. Histological features included a subepidermal blister filled with neutrophils and papillary dermal neutrophilic microabscesses, resembling dermatitis herpetiformis (DH). Direct immunofluorescence showed linear deposits of IgG and C3 along the dermoepidermal junction (DEJ), and serum indirect immunofluorescence of salt-split human skin showed dermal binding IgG. Serum immunoblotting identified the presence of circulating IgG to the p200 dermal antigen, and negative reactivity to collagen VII, confirming a diagnosis of anti-p200 pemphigoid. She developed severe dapsone-induced haemolysis, transaminitis with azathioprine, and required high doses of systemic corticosteroids for disease control.

Discussion: Anti-p200 pemphigoid is a recently recognized autoimmune blistering disease with autoantibodies targeting a 200 kDa dermal antigen. The disease mimics bullous pemphigoid, epidermolysis bullosa acquisita (EBA) or DH in clinical features; linear IgA disease or DH in histopathological features; and EBA in serum indirect immunofluorescence findings. However, it is distinctly characterized by
circulating and tissue-bound antibodies to a 200-kDa protein of the DEJ. The course of anti-p200 pempigoid is variable, but response to immunosuppressive therapy is usually prompt. Successful disease control has been reported with systemic agents such as moderate doses of corticosteroids, dapsone, azathioprine and tetracycline antibiotics.

References

A randomized double-blind controlled trial to compare a triclosan-containing emollient with vehicle for the treatment of atopic dermatitis
W.-P. Tan¹, A. Goon¹, S. Suresh², H.-L. Tey¹, L. Chiam¹
¹National Skin Centre, Singapore
²Clinical Research Unit, SGS Life Science Services, Singapore

Introduction: Atopic dermatitis (AD) is a chronically relapsing skin disease. Staphylococcus aureus has been found to play a significant role in the propagation of skin rash in AD and the use of topical antiseptics in the treatment of AD had previously been explored. However, no triclosan incorporated stay-on emollient has been evaluated previously.

The primary aim of this study was to assess the safety and efficacy of a novel triclosan-incorporated emollient cream (SkinSure PLUS 1%) compared to its vehicle for the treatment of AD. The secondary aims were to determine its effectiveness in preventing relapse of AD, decreasing transepidermal water loss and assessing its cosmetic acceptability.

Method: Eligible patients with mild to moderate AD were randomized to receive either study cream or vehicle after a washout period. Patients and physicians were masked to allocation throughout the study period. All patients also received a low potency corticosteroid cream during the treatment phase of the study. They were assessed for severity according to the SCORAD index, change in transepidermal water loss (TEWL), amount of corticosteroid used and patient’s impression of cream.

Results: Thirty patients each received study cream or vehicle and an intention-to-treat analysis was performed. 9/30 (30%) subjects in the study cream group showed a decrease in SCORAD of at least 20 units at day 27, versus 4/30 (13%) in the vehicle group. This treatment difference of 17% was in favour of study cream, but not statistically significant (p = 0.1054). There was no statistically
significant change of TEWL from baseline in both groups of treatment. 87% of the patients had a “good” or “excellent” impression of the cream and only 4 patients had mild treatment related adverse events.

Multiple epidermal cysts occurring in a tattoo
R.Y.L. Teo1, M.J.-A. Koh1, K. Mancer2, T.-T. Liu1, Y.-K. Tay1
1Division of Dermatology, Changi General Hospital, Singapore
2Division of Pathology, Changi General Hospital, Singapore

Cutaneous reactions to tattoos are diverse and include acute inflammatory skin reactions, skin infections, eczematous hypersensitivity reactions, photoaggravated reactions, granulomatous reactions, lichenoid reactions and pseudolymphomatous reactions. The occurrence of epidermoid cysts have been reported following various surgical procedures1,2, but not complicating a tattoo. We present a case in which a 24-year-old Indian male developed a pruritic rash over his left forearm tattoo three weeks after the application of red, blue and green pigment. Physical examination revealed multiple tiny papules over the tattoo. Histopathology showed a small epidermoid inclusion cyst in the dermis, lined by keratinizing squamous epithelium, with blue pigment-filled macrophages within. He was treated symptomatically with 0.1% betametasone valerate cream so as not to disrupt his tattoo. Introduction of pigment during the tattooing caused disruption of the epithelium leading to occurrence of these cysts.

References

A randomized double blind, placebo controlled study on the effectiveness of an oral dietary supplement containing coenzyme Q10, antioxidants and marine protein (Radiance Marine Q10) for cutaneous ageing
M. Udompataikul, N. Kamanamool, P. Sripiroj, P. Palungwachira
Skin Center, Srinakharinwirot University, Bangkok, Thailand

Background: Cutaneous ageing is the result of the combination of genetic and environment (UV, smoking, stress). Alterations of skin in ageing process such as the degradation of collagen and elastin, decrease of glycoamino-glycans results in characteristic tissue alteration and the formation of fine lines and wrinkles. Previous studies, many topical cosmeceuticals, chemical peeling, microdermabrasion,
laser, radiofrequency, botulinum toxin or filler injection and plastic surgery are approved the benefit for treating the skin aging. Nevertheless there are many kinds of dietary supplements claimed for cutaneous antiageing properties with a few research studies supported.

Objective: To study the effectiveness of an oral dietary supplement containing coenzyme Q10, antioxidants and marine protein on cutaneous ageing.

Method: A double-blind, placebo-controlled trial, 60 women, 35–60 years of age were randomised to receive oral dietary supplement (Radiance Marine Q10) (n = 30) or placebo (n = 30), with one capsule/day for 3 months. The skin roughness and depth of wrinkles were evaluated with Visioscan® VC98 at baseline, at the end of first, second and third month of the follow up. Results were confirmed with Visiometer® SV600 at baseline and at the completion after 3 months follow up. The statistical difference of skin improvement was tested by Independent t-test and self-evaluations were tested by Chi-square. Statistical significance of all values was attained when P < 0.05.

Results: There was a statistically significant improvement in ageing skin in objective measurements after treatment with an oral dietary supplement compared with placebo. Participants’ self-evaluations also showed a statistically significant difference in favour of the treatment. No treatment-related side effects were reported.

Conclusion: The use of an oral dietary supplement containing coenzyme Q10, antioxidants and marine protein can potentially improve the appearance of the ageing skin with no short term side effect. The long term follow up may be required for clinically observable improvements and side effects.

Graphical drug charts – An aid in identifying the cause of cutaneous drug reactions

S. Venugopal1, E. Yiasemides1, A. Rubín1, D.F. Murrell1,2
1Department of Dermatology, St George Hospital, Sydney, New South Wales
2University of New South Wales, Sydney, New South Wales

Drug eruptions can result in significant morbidity and mortality. It may frequently result in multi-organ involvement. A common challenge faced by dermatologists includes the documentation of a patient’s extensive clinical and pharmaceutical history and determining the culprit drug for a suspected drug eruption. In what may be a life-threatening situation, it can be difficult to quickly identify a shortlist of candidate drugs responsible for the drug eruption.

Graphical drug charts are an important clinical aid to the diagnosis and management of suspected drug eruptions. Here we present the use of a diagrammatic drug chart which greatly aids the diagnosis and management of
suspected drug eruptions by neatly representing, in a graphical format, a patient’s long and short term drug history. Based on an overseas model, this drug chart allows for the easy identification of culprit drugs. Several examples of how this drug chart has improved the efficiency of patient care management will be presented. Graphical drug charts are a useful clinical tool for dermatologists in managing skin eruptions in hospitalized patients.

Automated diagnostic instruments for cutaneous melanoma
M.E. Vestergaard, S.W. Menzies
Sydney Melanoma Diagnostic Center, Sydney Cancer Center, Royal Prince Alfred Hospital and The Faculty of Medicine, University of Sydney, New South Wales

Introduction: Automated diagnostic instruments for melanoma are commercially available and are continuously developed and promoted as a way to improve diagnostic accuracy. Our objective is to assess the current evidence for fully automated instruments for the diagnosis of cutaneous melanoma tested in a real-world clinical setting, directly compared to human diagnosis.

Method: A systematic review was performed in six databases from 1987 to January 2007 and in one database from January to November 2007. Articles were excluded when studies did not report sensitivity or specificity for diagnosis for melanoma directly compared with humans on an independent test set.

Results: Only three instruments had their diagnostic accuracy compared with a human diagnosis in the clinical field with a meaningful sample size that could allow generalization with the wider clinical arena. Two of these instruments showed significantly inferior specificity for the diagnosis of melanoma compared with specialists. In one of these studies, the sensitivity for diagnosis, while being superior to the specialist diagnosis, did not reach statistical significance. In contrast, one instrument had equivalent specificity and trended superior, but not significant for sensitivity for the diagnosis of melanoma1. In another study, three different automated instruments were compared to an expert clinician and the best performing system had similar sensitivity, but improved specificity compared to the clinician2.

References
Spongiotic fixed drug eruption associated with Echinacea
S.A. Webber\textsuperscript{1}, J.B. Muir\textsuperscript{1}, R. Donnellan\textsuperscript{2}
\textsuperscript{1}Department of Dermatology, Mater Misericordiae Hospital, South Brisbane, Queensland
\textsuperscript{2}Mater Pathology, Mater Misericordiae Hospital, South Brisbane, Queensland

A 50 year old man presented with a five day history of a bilateral, pruritic and tender blistering eruption initially on his fingers and palms and later progressing to the soles. It coincided with oral administration of an Echinacea herbal supplement during the preceding three months. The lesions, consistent with a spongiotic fixed drug eruption, settled quickly on cessation of the Echinacea.

There are nine known species of Echinacea. All are native to North America and southern Canada. It is one of the most widely used complementary medicines used by the Australian population. The Echinacea safety profile is favourable\textsuperscript{1} and reported adverse reactions are low in number\textsuperscript{2}. There have been reports of allergic skin reactions, bronchoconstriction and minor gastrointestinal disturbances. To our knowledge, no cases of spongiotic fixed drug eruption have been previously reported in relation to Echinacea. We describe this unusual case and the use of patch testing in diagnosing fixed drug eruptions.

References

Assessing the prevalence of scabies across Fiji
M. Whitfield\textsuperscript{1}, L. Romani\textsuperscript{2}, A. Steer\textsuperscript{3}, J. Carapetis\textsuperscript{4}, Joe Koroivueta\textsuperscript{4}
\textsuperscript{1}St Vincent's Hospital, Sydney, New South Wales
\textsuperscript{2}Colonial War Memorial Hospital, Suva
\textsuperscript{3}Menzies Institute, Darwin, Northern Territory
\textsuperscript{4}Tamavua and PJ Twomey Hospital, Tamavua

Preliminary data on scabies prevalence in Fiji provided evidence of scabies prevalence varying from 0 to 38%. In view of this disparity, a project was designed to assess the prevalence of scabies throughout Fiji. This would enable the Public Health Department to make decisions about skin diseases in a more informed way.

After review by the St Vincents Research and Ethics Committee and the Fijian Health National Research Committee the project commenced.

The research was initially scheduled to run in conjunction with a WHO and Fiji Dept of Health project, to assess the
presence of microfilariae in the blood of Fijian citizens. This project was subsequently downsized, however the scabies prevalence research continued.

Eight experienced nurses were brought to Suva from their local health post, for a three day training course, in both clinical dermatology, research methods and they were given information about the study. Attendance at the dermatology clinic was an important part of the training programme.

Over the next 6 weeks, the nurses enrolled, reviewed the questionnaires, and assessed more than 15,000 people from all divisions of Fiji, including mainland and isolated sites.

The results are in the process of being analysed.

When universal alopecia is not alopecia universalis
L. Yip1, L. Horev2, R. Sinclair1, A. Zlotogorski2
1Skin and Cancer Foundation of Victoria and the Department of Dermatology, St Vincent's Hospital Melbourne, Victoria
2Department of Dermatology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel

Atrichia with papular lesions (APL) is a rare autosomal recessive condition characterised by complete irreversible hair loss during the first months of life that mimics alopecia universalis, followed by widespread papules that appear during early childhood. Mutations on the human hairless gene (Hr) on chromosome 8p12 have been implicated in its pathogenesis.1 In the past, APL was thought to be rare as most reported cases were of homozygous mutations in consanguineous families living in Mediterranean and Pakistani regions. The increasing reports of compound mutations outside these geographic boundaries suggest that APL is not exclusive to consanguineous families and is more prevalent than previously thought.2 APL is still under-diagnosed despite established diagnostic criteria. We report a case of APL with two novel compound heterozygous mutations in a 2-year-old Australian boy. It is important to recognise APL and differentiate it from alopecia areata as treatments for APL are futile, and treatments for refractive alopecia areata can have significant side effects.

References

Cutaneous invasive squamous cell carcinoma – A 10-year experience and cure rates in private dermatological practice in South East Queensland, Australia
C. Yoong, B. De’Ambrosis
South East Dermatology, Belmont Specialist Centre, 1202 Creek Road, Carina Heights QLD 4152, Brisbane, Australia

Introduction: Current National Health and Medical Research Council guidelines recommend a 5-year follow up for high risk SCC, however there is no recommendation for those of lower risk. The data gained from this 10-year retrospective audit of low risk cutaneous invasive SCC in a private dermatology clinic in South East Queensland is valuable in establishing follow up procedures.

Method: Patients were identified from databases of a single dermatologist in a private dermatology clinic. Only primary cutaneous invasive SCCs excised in 1996 were included. This group was subject to an audit trail in the 10-year period following the incident primary lesion which included size, site, depth, differentiation, perineural involvement, lymph node involvement, local recurrences, further SCCs, BCCs and melanoma detected, patients’ immunosuppression status and length of follow up.

Results: Forty patients had invasive cutaneous SCC excised in 1996 – twenty-five males and fifteen females with mean age 65. All were in sun-exposed sites, majority under 2-cm in size, with no Clark level-V involvement, nor depth of invasion greater than 4-mm and none had a tumour positive margin. All with the exception of two were well differentiated SCC. Greater than 2/3 were followed up 5-years and more. One in two developed a second SCC within 5 years. A significant number had a second SCC detected only in 5 to 10 year follow up. 3/4 of group had a BCC within 5 years, rising to 4/5 at 10 years. One in eight had a subsequent melanoma detected.