Thirty-nine patients aged 4 weeks to 3 years with mild-to-moderate atopic dermatitis wore superfine wool clothes in a double-blind, randomised, crossover trial. They were followed up for 15 years. The study showed that woolen clothing led to a reduction in atopic dermatitis severity scores, and a reduction in body moisture compared with cotton clothes. Reducing woolen clothing to cotton clothing led to increased scores.

The choice of wool depends on the fibre diameter. Wool with a diameter of 15–18.5μm is superfine merino wool. Wool with a diameter of >24μm is generally less than 24μm, and wool with a diameter of <19–21μm is standard merino wool. Merino wool is generally less than 24μm, and this is the first original clinical study to examine the clinical effects of superfine merino wool on childhood atopic dermatitis.

Sphingolipid metabolism gene expression in atopic dermatitis.

Researchers from the US have reported that patients with hidradenitis suppurativa have changes in the expression of genes encoding enzymes involved in sphingolipid metabolic pathways. Research from Queensland reports on patients treated with diphenylcyclopropenone (diphencyprone) for in-transit melanoma. Calciphylaxis: detecting small-vessel calcification on imaging.

Calciphylaxis is a rare condition characterized by calcification of small arteries and arterioles, leading to ischemia and necrosis of the skin. Research suggests an adjunctive role for radiological imaging for assisting with diagnosing calciphylaxis.

Treatment of pyoderma gangrenosum.

Pyoderma gangrenosum is a rare, chronic, inflammatory skin condition characterized by rapidly growing, painful, ulcerative lesions. Treatment can be difficult with prednisolone, the usual first-line treatment, and the choice of drug is mainly determined by patient comorbidities and doctor preference. Cyclosporin has been difficult in private practice until recently because of the cost, but now it is on a general PBS prescription, so access is not a limiting factor.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a minority of patients with large lesions ≥20 cm.

The cost-effectiveness of cyclosporin versus prednisolone for initial treatment of pyoderma gangrenosum. A base case analysis revealed that cyclosporin was associated with lower net costs and an improvement in QOL, but this appeared to be driven by a majority of patients with larger lesions ≥20 cm. The incremental cost effectiveness of cyclosporin for most patients with smaller lesions was £23,374 per QALY, although this estimate is imprecise; the need for further studies on the effects of clothing, and of the microenvironment between clothing and the skin in atopic dermatitis.

Dermatology Research Review, issue 38 - 2017
Nephrogenic systemic fibrosis: a 15-year retrospective study at a single tertiary care center

Authors: Wilson J et al.

Summary: This small retrospective medical chart review of eight patients with nephrogenic systemic fibrosis from a single centre sought to investigate whether improvement of renal function following successful transplantation or via return of renal function after acute kidney injury correlates with improvement of nephrogenic systemic fibrosis. A significant correlation was seen between improved renal function and improved nephrogenic systemic fibrosis (p=0.0286), with all four patients who experienced renal function improvement also experiencing improvement of their nephrogenic systemic fibrosis (two had end-stage renal disease and a successful kidney transplant, and two had acute kidney injury that resolved). There was no improvement in nephrogenic systemic fibrosis without kidney function resolution.

Comment: The incidence of nephrogenic systemic fibrosis has fallen after it was first recognised in 2000. Since 2006, there has been a link between exposure to gadolinium, and the avoidance of gadolinium contrast in high-risk renal patients is likely to have led to this decrease. Although multiple treatments have been tried, the results have been mixed with no single treatment showing consistent benefit. Although this study only had small numbers, it suggests that the best treatment is improvement of renal function and this should be the main goal, and this may mean renal transplantation. This study didn’t look at whether the duration or extent of the renal impairment influenced resolution, and this could be looked at in future studies.


Abstract

Long-term follow-up of patients undergoing autologous noncultured melanocyte-keratinocyte transplantation for vitiligo and other leukodermas

Authors: Silpa-Archa N et al.

Summary: This retrospective review of 63 evaluable patients who underwent melanocyte-keratinocyte transplantation for 157 vitiligo or other leucoderma lesions assessed long-term repigmentation. Improvements in VASI (Vitiligo Area Scoring Index) score were seen for segmental vitiligo, nonsegmental vitiligo and physical leucoderma lesions (−75.6, −59.2 and −32.4 points, respectively). For vitiligo, the respective 24-, 48- and 72-month >75% repigmentation rates were 53%, 64%, and 53%.

Comment: Melanocyte-keratinocyte transplantation is a simple procedure that can be done in one visit. There are good results at 6 months, but there are limited studies on long-term outcomes. The majority of patients maintained greater than 75% repigmentation at 72 months, which is reassuring for the patient. Age, skin phototype and anatomic location had no effect on repigmentation. After melanocyte-keratinocyte transplantation, the patients were allowed to continue their prior treatment, but there was no mention in this article what this treatment was and how long it was continued for. Other studies have shown that follow-up treatment with narrow-band UVB increases the response after melanocyte-keratinocyte transplantation, so it would have been useful to know what was used. This was a retrospective review, and a prospective study looking at whether follow-up treatments such as narrow-band UVB or topical agents show a higher maintenance rate or further increase the amount of repigmentation are worthwhile.


Abstract

Gene expression of sphingolipid metabolism pathways is altered in hidradenitis suppurativa

Authors: Dany M & Elston D

Summary: This research sought to establish if there is alteration of gene expression of enzymes involved in sphingolipid metabolic pathways in patients with hidradenitis suppurativa. Expression of sphingolipid-related enzymes was compared between inflammatory skin lesions obtained from 17 patients with hidradenitis suppurativa with skin tissue samples obtained from 13 healthy subjects. Compared with the healthy skin samples, hidradenitis suppurativa lesional skin samples exhibited decreased expression of ceramide- and sphingomyelin-generating enzymes, increased expression of enzymes catalysing ceramide to sphingosine, and increased expression of enzymes converting ceramide to galactosylceramide and gangliosides.

Comment: The pathogenesis of hidradenitis suppurativa is still not clearly understood, but there has been a big increase in knowledge and numerous studies over recent years leading to the recent PBS approval of adalimumab for several years. Recent research has also highlighted the role of other cytokines including IL-1 and IL-17, which could lead to the anti-IL-1 and IL-17 inhibitors undergoing trials, although there are current case reports and small series that suggest these treatments are effective. Recent evidence has shown that sphingolipid species, such as ceramide and sphingosine-1-phosphatase, act as biologically active stimulating molecules, and in hidradenitis suppurativa, sphingolipid metabolism may be abnormal leading to increased inflammation. This study shows that sphingolipid metabolism is altered in hidradenitis suppurativa, and this may lead to drugs with an alternate mode of action being developed for hidradenitis suppurativa.


Abstract
Randomized, controlled trial split-faced study of 595-nm pulsed dye laser in the treatment of acne vulgaris and acne erythema in adolescents and early adulthood

Authors: Lekwutlikam R et al.

Summary: Thirty adolescents and young adults with mild-to-moderate acne vulgaris or acne erythema received two sessions of 595nm pulsed dye laser (8 J/cm³ for 10 msec; spot size 7mm) to one randomised side of their face every 2 weeks, with the other side left untreated for comparison. Change in papule count at week 4 was −1.82 on the treated side of the face versus 0.103 on the nontreated side (p=0.0018), but no significant difference was seen for acne severity or erythema grades.

Comment: Pulsed dye laser is often used to reduce erythema after acne has cleared, especially after isotretinoin treatment where there may be persistent and severe erythema. This study showed it had no benefit when given when the acne is active and still being treated. These results suggest that pulsed dye laser may not be of much benefit in post-acne erythema either, with the reduction of erythema occurring because of the passage of time. Laser trials for post-acne erythema have all had small numbers and poor designs and were not well controlled. There was also no significant benefit in reducing the acne severity, so because of its high cost pulse dye laser cannot be recommended in acne treatment.


Abstract

The combination of overweight and smoking increases the severity of androgenetic alopecia

Authors: Fortes C et al.

Summary: Risk factors for androgenetic alopecia severity among 351 Caucasian outpatients were identified in this cross-sectional research. The risk of moderate or severe androgenetic alopecia was significantly increased in current smokers with body mass index ≥25 kg/m² (adjusted odds ratio 5.96 [95% CI 1.65–21.5]); age and gender were also significantly associated with androgenetic alopecia in the multivariate model.

Comment: This study showed an independent association of obesity and smoking with androgenetic alopecia. This does not prove a causal mechanism, but may be related to the proinflammatory changes occurring in obesity also occurring in the hair follicle. If there is a real causal action, then stopping smoking or losing weight may lead to an improvement in the androgenetic alopecia or at least slow its progression. This is a study that would be interesting to do.


Abstract

Daylight photodynamic therapy with methylene blue in plane warts

Authors: Fathy G et al.

Summary: Patients with multiple plane warts received daylight PDT with topical 10% methylene blue gel as a photosensitiser (n=20) or placebo (haematoxylin; n=20) in this research. In the treatment group, the complete clearance rate was 65%, 10% of given weekly for a maximum of 6 weeks or until complete clearance, and some patients only needed three treatments for actinic damage, but all patients had pretreatment for 1 week with 0.05% isotretinoin cream to aid penetration, and treatment times varied between 90 minutes and 120 minutes depending on whether it was sunny or not. Treatments were for moderate to severe plaque psoriasis in adult patients who are candidates for systemic therapy or phototherapy.

AT WEEK 12
(UNCOVER-2 PHASE III TRIAL):

90% OF PATIENTS
ACHIEVED
PASI 75

71% OF PATIENTS
ACHIEVED
PASI 90

41% OF PATIENTS
ACHIEVED
PASI 100

PBS INFORMATION: Authority required. For the treatment of severe chronic plaque psoriasis, Refer to PBS Schedule for full authority information.

Please click here to review the full Product Information before prescribing.


Abbreviations: PASI, Psoriasis Area Severity Index. TALTZ® is a registered trademark of Eli Lilly and Company. Eli Lilly Australia Pty Ltd. 112 White Road, West Ryde NSW 2114, Australia. ABN 39 000 233 992. Medical Information: 1800 454 559. Date of preparation: January 2017. PP-IX-AU-0120. ELT086th/V2/DPR.
Diphenylcyclopropenone for the treatment of cutaneous in-transit melanoma metastases

Authors: Read T et al.

Summary: Clinical outcomes were reported for 54 evaluable participants with cutaneous in-transit melanoma metastases from a prospective, non-randomised, non-comparative, single-centre study of topical 0.005–1% diphenylcyclopropenone cream applied twice per week for 24–48 hours’ duration. The complete response rate was 22% (occurring in a mean time of 10.5 months and with a mean disease-free interval of 12.3 months), the partial response rate was 39%, the stable disease rate was 24% and the progressive disease rate was 15%. The recurrence rate among complete responders was 41%. A significantly higher response rate was seen in epidermotropic disease.

Comment: This study follows on from Diona Damian’s work and shows similar results, although her results showed a higher benefit with complete and partial response rates of 46% and 39%, respectively. There was an increased response in the epidermotropic group compared with the nodular group. Seventy-five percent of patients who experienced complete remission had a severe treatment reaction, which suggests that a good immune response is associated with eventual tumour regression. Complete responders also had a higher median overall survival time. Immune sensitizing topical agents may have a synergistic effect when combined with systemic immunotherapies such as anti-PD-1 antibodies. Topical diphenylcyclopropenone is a worthwhile option in selected patients, and may offer some prognostic information in those who have a severe response.

Reference: J Eur Acad Dermatol Venereol; Published online July 13, 2017

Abstract

Calciphylaxis: comparison of radiologic imaging and histopathology

Authors: Halasz CL et al.

Summary: These researchers compared diameters of calcified vessels in routine skin biopsy specimens and radiology images from seven patients with calciphylaxis presenting to a single community hospital between 2009 and 2016. Plain films from three patients revealed small-vessel calcification as small as 0.1–0.3mm, mammograms in three patients revealed 0.1–0.2mm small-vessel calcification and CT in one patient revealed 0.1–0.2mm small-vessel calcification.

Comment: The diagnosis of calciphylaxis is usually confirmed with a skin biopsy, but there may be sampling errors and involved vessels are not always seen. A relatively large incisional biopsy is therefore needed, and this is more likely to break down and cause a large painful ulcer. In this study, plain x-rays, mammograms and CT scans were all able to detect small-vessel calcification to a resolution close to that of histopathology. A skin biopsy is more specific as it can detect occlusion of the calcified vessels, which is the pathognomonic feature, but radiography is useful as an adjunctive investigation to help support the diagnosis of calciphylaxis or when the biopsy is nondiagnostic or difficult to do.


Abstract