

Abstracts

Acne

Is Isotretinoin reducing the Loss of Fat through the skin explaining the raised Lipids?

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Sebaceous glands secrete a lipid rich sebum which functions in the skin as maintaining the microbiome, skin integrity, thermoregulatory and UV protection. These glands a pivotal role in secreting a variety of lipids and cellular products, antimicrobial peptides and forming an important immune protective barrier.

Recent evidence is pointing to the increase in Sebaceous activity, as a mobilisation of lipids from fat containing tissues. An important cytokine, Thymic Stromal Lymphopoietin (TSLP) modulates the sebum secretion and in animal studies, the energy used is sufficient to cause significant loss of white adipose tissue and loss of weight. The research is showing TSLP over expression results in smaller sebaceous glands with an increase in sebocyte turnover and a result of increase in progenitor cells. The consumption of lipids from tissues has been evidenced with these sebaceous glands, illustrating another important aspect of the sebaceous gland function. TSLP is being studied to affect the lipids in the future.

This paper presents the recent studies above and highlights the likely explanation that we are witness to in our daily treatment of ACNE.

As we commence treatment with the Isotretinoin or Vit A, we eventually reduce size and activity of sebaceous glands, measured clinically by reduced acne and surface dryness. However the common occurrence of elevation of Lipids in 10 to 40% of these patients, which often correlates with effectiveness of treatment may be otherwise explained by this new understanding of sebaceous gland and lipid mobilisation.

As we measure these lipids ongoing and find that those patients with elevation, on isotretinoin, are the ones who eventually have higher lipids in adult life, is an interesting scenario. The presentation will highlight the sebaceous gland and fat loss.

ACNE on the JAK inhibitors, A Discussion of Why?

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Acne has been found to be a side effect published in the recent clinical trials of Jak Inhibitors treating patients with atopic eczema. The incidence of acne in the trials, for Upadacitinib 15 mg (30 [10%] of 300 patients) and upadacitinib 30 mg (41 [14%] of 297 patients) more than the placebo group (six [2%] of 304 patients).(1) Similarly with

Abrocitinib a dose-related increase in acne (4.7%, 1.6%, and 0% for 200-mg, 100-mg, and placebo groups, respectively (2).

As we move to treat our atopic eczema patients with these new therapies, it is important we advise our patients but also understand the pathogenesis that may explain this clinical occurrence.

It may also be relevant that in rheumatological trials of the same JAK inhibitors the presentation of Acne was not as common as in the Atopic trials.

The finding recently of the skin Innate Lymphoid cells (ILCs) residing in the skin are heterogenous and having functions which play roles in homeostasis of the skin microbiome and also epidermal and appendage functions may be significant (2). ILCs play critical roles in host protective immunity such as the regulation of barrier and microbial homeostasis, metabolism, and tissue repair.

The paper will illustrate how JAK inhibitors affect the pathways of cytokines involved in the atopic pathology but also in doing so also have consequences on the ILC function and subsequent effects. In contrast the recent finding of activation of the JAK 1 pathway in acne, which emphasises a paradox (4). The ILCs may be an explanation for the appearance of acne in these JAK inhibitor clinical trials but not forgetting that there is redundancy or complexity in the system.

This presentation will attempt to highlight the important reasons and why acne is occurring in these atopic eczema JAK inhibitor trials.

Audit of isotretinoin prescribing and monitoring practices amongst Australian Dermatologists measured against current guidelines, and identification of practice uncertainties

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Aims: Isotretinoin is indicated for moderate-to-severe acne vulgaris. It is associated with adverse effects such as teratogenicity and hepatitis. Guidelines for isotretinoin for the treatment of acne do not exist in Australia but are utilised in comparable health systems in the United Kingdom (UK), Europe and the United States of America (USA). The Australasian College of Dermatologists (ACD) developed a position statement on isotretinoin in 2018. The primary objective of this audit was to compare Australian dermatologist isotretinoin practice against best available evidence and guidelines from the UK, Europe and USA. The secondary objective was to identify areas of practice uncertainty.

Methods: We conducted an anonymous, online, survey using SurveyMonkey™ of Australian dermatologists. An invitation to complete the survey was distributed through the ACD national weekly update email and through state faculty emailing lists with 5 reminders sent 1–2 weeks

apart. Audit points included daily dosing, initiation and monitoring investigations and mental health surveillance.

Results: A total of 118 out of 654 (18%) dermatologists completed the survey. An initiation dose of isotretinoin of 10 or 20 mg daily was prescribed by 61.2% of dermatologists. Pregnancy was excluded prior to commencement with serum beta-hCG by 91.4%. Serum lipids and liver function tests (LFT) were checked prior to commencement by 78% and 90.5% of dermatologists respectfully. Serum lipids and LFT were monitored by 68.2% and 77.3% of dermatologists during treatment. Baseline mental health status was assessed prior to treatment by 79.3% and 85.6% of dermatologists directly inquired about mental health during the treatment.

Conclusion: Divergence from audit points was evident in daily dosing, treatment endpoint and monitoring investigations. Areas of practice uncertainty and future research identified included treatment duration, dose escalation and weaning of isotretinoin.

Does early acne intervention provide more than just a reduction in the incidence of scars? A review of the literature

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Aims: It is well established that early intervention in acne treatment reduces the incidence of scars. The purpose of this paper was to identify if early intervention in acne management also provides a cost benefit to the patient, reduces relapse rates or lessens the requirement for the treatment of acne scars.

Methods: A systematic search of The Cochrane Library, MEDLINE and Cumulative Index to Nursing and Allied Health Literature (CINAHL) was performed independently by one reviewer using predefined criteria.

Results: Seven articles were identified from the literature – one systematic review, one review article and five expert opinion articles. Although data supports early intervention in acne management, no articles identified whether a cost benefit was also provided, if there was a reduction in the relapse rates or if there was a decreased requirement for the treatment of acne scars.

Conclusions: This review identifies an overall lack of published data regarding multiple outcomes for early intervention in acne and allows for the possible identification of areas where primary research would be beneficial.

Severe rosacea fulminans in a pair of siblings: review of genetics basis of aetiopathogenesis and management aspects

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Rosacea fulminans, previously known as pyoderma faciale, is a rare severe centropacial dermatosis characterised by the

rapid eruption of inflammatory papules, pustules, nodules, and cysts, telangiectasia, and phymatous skin changes. Rosacea fulminans predominantly affects young women in their 20s and 30s, often in the absence of systemic symptoms, comedones and extrafacial involvement.¹ Circumoral and circumocular sparing is a common clinical feature. Though newer understanding of the complex interplay between genetic and environmental factors, the immune system, and neurogenic inflammation in rosacea has advanced significantly in the recent decade; classification of rosacea fulminans as a variant of rosacea remains controversial and its underlying aetiopathogenesis elusive.²

We report two cases of a brother and sister with rosacea fulminans, highlighting the need for further research into genetics predisposing factors and mechanism of disease to better guide treatment and to avoid complications such as scarring, disfigurement, and psychological distress.³

In these cases, management required consideration of pregnancy and breastfeeding which precluded the traditional use of high dose systemic steroids and isotretinoin in our female patient. Their younger siblings reportedly are beginning to have similar onset of symptoms. Clarifying the genetics and epigenetics of rosacea fulminans in future could provide a more targeted therapeutic armament.

Biologics

The impact of biologic therapy on key cardiovascular risk parameters in patients with psoriasis – a retrospective review

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Background: Psoriasis has been established as an independent risk factor for cardiovascular disease and coronary atherosclerosis. Biologic agents have revolutionised psoriatic skin control and there is emerging evidence that these agents may also address the systemic inflammation of psoriasis. This study aims to assess the change in cardiovascular parameters in a psoriasis cohort after one year of continuous biologic treatment.

Methods: A retrospective review of patients receiving biologic therapy for chronic plaque psoriasis in a single dermatology centre at a major tertiary hospital in Sydney, Australia. The effect of biologic therapy on traditional cardiovascular risk factors was assessed by comparing paired measurement at baseline and 1-year. Factors analysed included including heart rate, systolic blood pressure (SBP), diastolic blood pressure (DBP), weight, and body mass index (BMI).