THE PULSE OF PSORIASIS

Psoriasis is a common, chronic inflammatory skin condition. It is thought to be immune-mediated, however, genetic and environmental factors are aetiological contributors.

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Psoriasis can cause significant psychological stress as well as physical morbidity.

PATHOGENESIS

The key immune system trigger is activation of T lymphotcytes, which causes cytokine release. These cytokines, including Interleukin (IL) 12, IL 17, IL 23 and TNF α, cause accelerated epidermal keratinocyte turnover which results in thickening of the skin and scaling. Vascular hyperplasia, due to the increased requirement by epidermal cells for growth, causes redness.

Environmental and external factors may initiate or worsen the disease. Such factors include:

- Streptococcal infections
- Injuries such as abrasions and sunburn
- Stressful events
- Medications: NSAIDs, Beta blockers, ACE inhibitors and antimalarials such as chloroquine
- Obesity
- Smoking
- Excessive Alcohol consumption
- Stopping oral steroids.

One-third of patients with psoriasis have a family member who is also affected.

CLASSIFICATION:

- Chronic plaque type psoriasis (also known as psoriasis vulgaris) is the most common presentation. Plaques are usually larger than 3cm and typically affect the elbows, knees and lower back.
- Acute guttate psoriasis, which may follow Streptococcal infection. Lesions are widespread, small 'teardrop' plaques, which are usually thinner than chronic plaques.
- In unstable plaque type psoriasis, rapid extension of new or existing lesions occurs. This may be induced by infection, stress, drugs and drug withdrawal.
- Erythrodermic psoriasis affects more than 90% of the total body surface area and may result in systemic illness with temperature dysregulation, eletrolyte imbalances and even cardiac failure.
- Pustular psoriasis may be generalised or localised to the palms and soles. Erythrodermic, pustular and acute unstable psoriasis all warrant emergency referral to a dermatologist.

SITES OF INVOLVEMENT

The scalp may be the first and only site of psoriatic lesions.

Flexural psoriasis can affect the skin folds and genitalia. Patches are smooth and have a moist peeling surface. These lesions can easily become colonised by Candida species.

Palmoplantar psoriasis affect the palms and soles. It is associated with keratoderma and painful fissuring.

All types of psoriasis may occur with or without nail involvement. Nail changes in Psoriasis include pitting, onycholysis, pinkish "oil spots" beneath the nail plate, yellow discolouration and ridging. Psoriasis may affect the joints in 5%-10% of cases.

CLINICAL FEATURES

Lesions are typically symmetrical, well-defined, salmon pink plaques of varying size with characteristic silvery scales. When scales from a psoriatic plaque are gently scraped, small bleeding points may appear. This is referred to as Auspitz sign. Itch may be severe and result in lichenification. The skin may then fissure and bleed. Psoriatic lesions may koebnerise or spread in an area of skin trauma including injury, infection, a surgical wound or a scratch mark. It is not a feature specific to psoriasis and may occur in several other skin conditions including vitiligo, lichen planus and viral warts.

DIAGNOSIS AND INVESTIGATION

The diagnosis of psoriasis is usually made clinically. All areas of the body should be examined for classical psoriatic lesions. A skin biopsy may be required for atypical cases. Dermoscopy may be useful in the clinical diagnosis of lesions as well as differentiating between scalp psoriasis and seborrheic dermatitis.

MANAGEMENT

When managing a patient with Psoriasis one needs to consider the body surface area involved, sites of the body affected and the thickness of the plaques. Effective control of lesions can be achieved with a combination of topical treatments, systemic therapy and light therapy. Localised or mild plaques are initially managed with one or more topical agents. If plaques are extensive or severe, phototherapy or systemic agents are employed.

TOPICAL THERAPY

Coal tar can be used for the symptomatic treatment of scaling, itching and inflammation. Tar preparations are also available as shampoos for scalp psoriasis.

Salicylic acid, usually used in a 2% concentration, is a keratolytic and works by removing excess keratin to restore skin to its normal thickness. Salicylic acid may be combined with other topical agents.

Dithranol inhibits keratinocyte hyperproliferation. It may cause skin irritation when applied to normal skin and may stain skin, hair, clothing and furniture.

Calcipotriol is a vitamin D analogue shown to be effective in psoriasis. It is available in combination with betamethasone as an oinment for use on the body, and as a gel for the scalp. The combination has demonstrated superior efficacy compared to the use of either ingredient alone.

Topical corticosteroids are useful for mild to moderate psoriasis but care needs to be exercised to avoid adverse effects such as skin atrophy. Responsive areas include the scalp, palms, soles and, for limited periods, the flexures.

Calcineurin inhibitors are immunomodulating agents which reduce T cell proliferation and cytokine release. Two examples within this group are Tacrolimus and Pimecrolimus. Calcineurin inhibitors may be considered for psoriatic lesions on the face and flexures as they do not cause thinning of the skin after prolonged use.

LIGHT THERAPY

Phototherapy treatment options for psoriasis include PUVA (Psoralen and ultraviolet A light), narrow band UVB (ultraviolet B light) and Excimer Laser/Light.

PUVA is a type of ultraviolet light therapy where the patient is exposed to Psoralen and then to UV light. The Psoralen may be ingested in the form of a capsule or used topically by soaking the area to be treated. During treatment, the patient usually stands in a cabinet containing long fluorescent bulbs with areas to be treated exposed and wearing protective eyewear. This is done approximately three times a week. Localised PUVA is available for small areas via a hand or foot unit.

Narrowband UVB (311-312nm) has replaced PUVA in many centres throughout the world and has the following advantages:

- No psoralen required (eliminating nausea and associated cost)
- shorter duration of treatment
- Less photoageing
- Less sunburn
- Lower theoretical risk of skin cancer
- There is no need to wear protective eyewear after the treatment as no psoralen is used.

Phototherapy has previously only been available at specialised Dermatological facilities. However, portable home-use units are now available for improved patient convenience.

Excimer Laser/Light (308nm) carries the advantage of achieving clearance much faster that other forms of phototherapy but is designed for treatment of localised areas only.

SYSTEMIC THERAPY

Should systemic agents be required, the patient should be referred to a Dermatologist. Systemic therapy includes methotrexate, acitretin and ciclosporin. Biologic agents, such as infliximab, adalimumab, etanercept and ustekinumab are reserved for severe psoriasis, which is resistent to conventional therapies.

References available on request.