Psoriasis

It's a chronic inflammatory disorder of skin and joints.

Aetiology.

The Aetiology is the combination of genetic & environmental factors.

Recent studies led to the identification of atleast nine chromosomal psoriasis susceptibility loci.

Precipating factors.

Non-inherited factors also have a role in triggering psoriasis in predisposing individuals they are:

(1) Infections:

Bacterial infections trigger psoriasis eg. Streptococcal infections particularly pharyngitis, precede the onset of guttate psoriasis & HIV infections can aggravate psoriasis

(2) Drugs.

Drugs like lithium, β-blockers, antimalarials NSAID's tetracyclines & rapid withdrawal of systemic corticosteroids can exacerbate & induce psoriasis

(3) Alcohol & Smoking

Excess alcohol consumption may exacerbate established psoriasis

~~Psoriasis is associated with high rates of alcoholism d.~~
to psychological stresses of the disease.

→ psoriasis is Associated ē high rates of alcoholism due to psychological stresses of the disease.

Smoking is strongly associated with palmoplantar psoriasis.

→ Many Pt's were smokers at disease onset

Smoking cessation should be actively addressed, due to a likely improvement in disease stats, and associated risk reduct^n of MI, atherosclerosis and stroke.

(4) Emotional stress

Clinical evidence has demonstrated that the Onset & Severity of psoriasis can correlate ē prior Stress.

(5) Koebner phenomenon.

It refers to psoriatic lesions occurs at sites of injury to the skin such as cut, burn scratch or surgical scars in Pt's ē psoriasis

Pathology & Clinical features

→ clinical feature of psoriasis, well demarcated erythematous scaly plaques.

→ common sites affected include scalp, buttocks elbows, knees & nails.

Epidermis - thickend ē a boxy layer due to increase epidermal turnover.

Dermis - capilaries are dilated tortuous & closer to the surface of the skin this causes pin point bleeding after scraping off the psoriatic scales.

- Inflammatory cells are present in the layers of psoriatic skin, granulocytes are predominant & forms microabscesses in the epidermis. lymphocytes and langerhans cells are also ↑.
- The presence of lymphocytes in the epidermis led to an Immunological cytokine-mediated process causing epidermal hyper proliferation and changes in vascular structure. T-cells, dendritic cells & cytokines such as TNF-α, IL-12 & IL23 contribute to its pathogenesis.

Clinical types of psoriasis

① psoriasis vulgaris
- It is a chronic plaque psoriasis.
- It occurs at aged but most often begins at young childhood & has a chronic relapsing course.
- The typical psoriatic lesion is a red, sharply demarcated plaque ē overlining silvery scale.
- The distribution is usually symmetrical and present at extensor sites such as elbows and knees.
- The sacrum, scalp & nail are also commonly affected.
- The plaque mainly itch but not to the extent of eczematous plaque.
- Treatment is aimed at management of disease rather than cure.

② Guttate psoriasis.
- It is the first manifestation of psoriasis in the predisposed individuals.
- It occurs in children & young adults.

→ It is characterized by widespread of scaly eruption of small 'teardrop' like scaly plaques

→ It is often acute and occurs 10-14 days after streptococcal upper respiratory tract infection.

→ topical treatment or UVB phototherapy are usually effective.

③ Scalp psoriasis

This occurs as a scaly demarcated plaques extending to the hairline and around the ears. Hair loss is rare.

④ Psoriatic nail disease.

→ Nails are frequently affected in psoriasis changes include nail pitting, nail ridging, onycholysis, hyperkeratosis under the nail & complete nail destruction.

Topical treatments are rarely effective for psoriatic nail disease systemic treatments such as methotrexate may improve nail disease

⑤ palmoplantar psoriasis

— There will be sharp demarcation on the palms and soles.

Palmoplantar psoriasis can take 2 forms, either inflammed hyperkeratotic fissured skin & can be very painful or sterile pustules on a erythematous base with dry to small brown macules.

Flexural psoriasis

Psoriasis can occur at flexural sites such as the axillae, groin, submammary area & genitalia. Due to friction and moisture with in skin folds, lesion differ in appearance from classical psoriasis & tend to be red & glazed rather than scaly. Affected areas tend to be clearly demarcated.

Erythrodermic psoriasis

- Erythroderma or exfoliative dermatitis is a severe potentially life-threatening condition. The body surface is red & scaly.
- This can occur as a consequence of either eczema or psoriasis skin function is impaired & the patient suffer dehydration, electrolyte imbalance temperature dysregulation & serious secondary infection.

Generalised pustular psoriasis

- This is an acute, unstable form of psoriasis manifesting as widespread sheet of tiny sterile pustules on an erythematous base. The pt is usually unwell c fever & general malaise.

Pustural psoriasis may be precipitated by the withdrawal of systemic or very potent topical steroid. Oral steroids should be avoided in the management of stable psoriasis.

psoriatic arthropathy

There are five patterns of psoriatic arthropathy, Monoarthropathy, rheumatoid arthritis mutilans. Some treatment effective for skin psoriasis also effective in psoriatic arthropathy including methotrexate

and biological agents with action against T...

Treatment.
Many patients ē psoriasis have mild disease and require only emollient therapy & prevent drying and fissuring of the elbows and knees.
Other treatment options should take into account the type of psoriasis, patient's occupation and lifestyle factors as well as disease severity. This will ensure patient compliance & better outcome.

Topical treatment.

first line treatment in mild to moderate psoriasis
(1) Emollients & Keratolytics.
(2) Corticosteroids.
(3) Coal tar.
(4) Anthralin
(5) Calcipotriene.
(6) Tazarotene.
(7) U.V.A & topical psoralens.

M.O.A

Moisturizers hydrate the stratum corneum & minimize the evaporation of water from the stratum corneum. Moisturizers may decrease the binding forces within the horny layer, enhance desquamation and eliminate scaling. It also increase the pliability of the skin and have antipruritic activity.

Treat... Smoot... Coal...

Keratolytics - these are used to remove scale, smooth the skin, decrease hyperkeratosis.

Coal tar causes predominently transient epidermal hyperplasia during the first two weeks of the therapy followed by cytostatic effect & epidermal thinning.

Topical corticosteroids - Synthesis & mitosis of DNA in epidermal cells have been halted by topical corticosteroids. It inhibits phospholipase A, arachidonic acid, prostaglandins & leukotrienes in the skin caused. & local vasoconstriction, these agents are useful to reduce erythema & pruritis.

Anthalin inhibit DNA synthesis by intercalation. b/w DNA strands. It may decrease epidermal proliferation by mitochondrial inhibition.

Calcipotriene binds to receptor in epidermal keratinocyte resulting in the inhibition of cell proliferation & induction of cell differentiation

Tazarotene - appears abnormal differentiation, hyperproliferation of keratinocyte & inflammation.

Active Ingredient	formulation	Dose	Side effects
Emollients	lotions Creams Ointments	3-4 times daily	folliculitis, Contact dermatitis
Keratolytic	Gel lotion	2-3%. 2-3 time daily	Salicylism.
Coal tar	lotions Creams Ointments Solution.	1-4&.5%. apply in evening	Irritating, Photoreaction
Anthralin	Creams ointments	0.1-1.1. apply in evening	Staining skin
Calcipotriene	Creams ointments Solution	0.005%. Twice daily	Burning, stinging
Corticosteroids	lotion Creams ointments Soln.	2-4 times daily	Epidermal thinning.
Methoxsalen	lotion	< 1%. Soak. or apply to area prior to UV therapy	Photoreaction, burning.

Systemic

1] ultraviolet A & oral psoralens. (mutagen)
↓
It intercalates into DNA & on exposure to ultraviolet radiation can form monoadducts and covalent interstrand cross-links @ thymines inducing apoptosis.

2] Methotrexate
3] Sulfasalazine.
4] Cyclosporine
5] Tacrolimus.
6] Acitretin.

Oral psoriasis treatment

M.O.A of Systemic drugs.

Cyclosporine demonstrates immunosuppressive activity by inhibiting an early step of T-cell activation & also anti-inflammatory activity by inhibiting the release of inflammatory mediators from mast cells, basophils & polymorphonuclear cells.

Tacrolimus has been found to be efficacious as an immunomodulator in the treatment of recalcitrant psoriasis on the basis of psoriasis as a T-cell mediated disease.

Sulfasalazin	Susp, tab cap	3-4g/day	GI upset
Metho~~X~~soalen		1mg/kg 2hr. before UVA exposure	Burns, erythema, ~~[illegible]~~, CNS effects
Methotrexate	Tab, Inj	2.5-5mg q/12hr for 3 doses every week.	Anemia, leukopenia, thrombocytopenia, GI upset.
Acitretin	cap	25-50 mg daily	Dry mouth & lips, eye irritation arthralgia.

Cyclosporine	Cap Soln	3-4 mg/kg/day in 2 divided doses	Nephrotoxicity, GI upset, hirsutism, tremor.
Tacrolimus	Cap	0.15 mg/kg twice daily	Nephrotoxicity, GI upset.

Phototherapy.

- It has long been recognized that daily, short, non-burning exposure to sunlight helped to clear or improve psoriasis
- UV wavelengths are subdivided into UVA, UVB and UVC
- Ultra violet B is absorbed by the epidermis & has a beneficial effect on psoriasis.

Combination therapy

- Photochemotherapy - oral & topical psoralen & long wave U.V.A light. psoralen react w nucleic acids & intercalate b/w base pairs
- PUVA also may affect immune response in the skin & circulating lymphocytes. Methoxsalen is usually dosed at 0.6-0.8 mg/kg & is given 2 hrs before before exposure.

Non-pharmacological therapy

- Avoid junk foods which are rich in saturated fats, oils, sugar & salt.
- Food should be composed of vegetable & fruits, legumes, nuts, seeds, whole grains, sea food and fresh fish.
- Reduce weight by jogging, swimming & walking
- Avoid alcohol & smoking.

CLASS..... SUBJECT.....
ROLL No..... DATE

Psoriasis

It is a chronic proliferating, immune-mediated skin disease.
It is characterized by well delineated, thickened erythematous epidermis or dermal plaques covered with a distinctive silvery scale.

Common sites affected are scalp, buttock, elbows, knees & nails.

Clinical features

Epidermis - thickened & a horny layer due to epidermal turnover.
dermis - capillaries are dilated tortuous & closer to the surface of the skin. this causes pin point bleeding after scraping off the psoriatic scales.

Pathophysiology

1. Inflammatory cells are present in the layers of psoriatic skin, granulocytes are predominant & forms microabscesses in the epidermis, lymphocytes & langerhans cells also increases.

The presence of lymphocytes in the epidermis led to an immunological cytokine-mediated process causing epidermal hyper proliferation & changes in vascular structure. T-cells, dendritic cells & cytokines such as TNF-α, IL-12, IL-23 contribute to its pathophysiology.

Cause.

1) genetic factors
2) Infections.
3) Drugs
4) Alcohol & Smoking
5) Emotional stress
6) Koebner phenomenon.

Types of psoriasis

1. psoriasis vulgaris
2. Guttae psoriasis
3. Scalp psoriasis
4. psoriatic nail disease
5. palmaplantar psoriasis
6. flexural psoriasis
7. Erythrodermic psoriasis
8. Generalised pustular psoriasis
9. psoriatic arthropathy

Psoriasis vulgaris

→ It is a chronic plaque psoriasis.
→ It occurs at aged but often begins at young childhood & is a Chronic relapsing course.
→ The typical psoriatic lesion is red, sharply demarcated plaque ē overlying silvery scale.
→ The distribution is usually symmetrical & presents at extensor sites such as elbows & knee.
→ The Sacrum, Scalp & nail are also commonly affected.
→ The plaques usually itch but not to the extent of eczematous plaques.

CLASS..... SUBJECT.....
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Guttate psoriasis

1. It is the first manifestation of psoriasis in the predisposed individuals.
2. It occurs in children & young adults.
3. It is characterized by widespread of scaly eruptions of small 'tear drop' like scaly plaque.
4. It is often active & occurs 10-14 days after Streptococcal upper RTI.
5. Topical treatment or UVB phototherapy are usually effective.

Scalp psoriasis

This occurs as a scaly demarcated plaques extending to the hairline & around the ears. Hair loss is rare.

psoriatic nail disease

nail are usually affected in this type
nail pitting
nail ridging
onycholysis
hyperkeratosis under the nail & complete nail destructions.

palmoplantar psoriasis

There will be sharp demarcation on the palms and soles.
palmoplantar psoriasis can take 2 forms

1) Inflamed hyperkeratotic fissured skin which can be very painful.
2) Sterile pustules on a erythematous base with dry to small brown maculae or area of skin

flexural psoriasis

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