# DERMATOLOGY

# Papulosquamous diseases

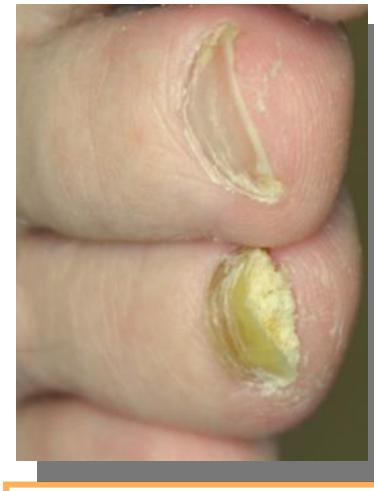
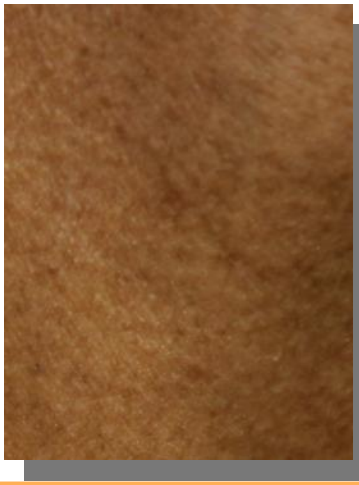
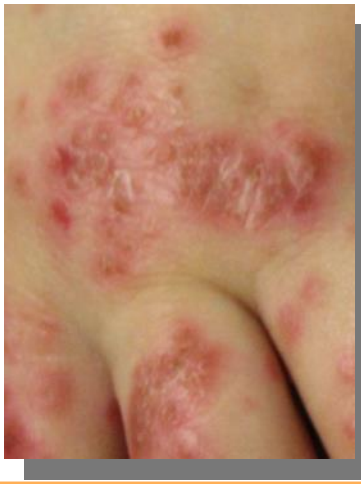
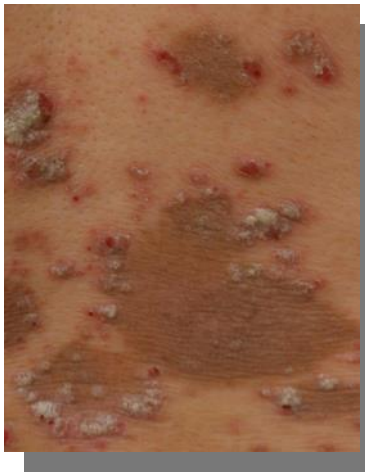

DONE BY

Fahd AlShuweishi

Mohammed ALShammri

TEAM LEADER

Meshaal AlOtaibi

FROM SLIDES DOCTOR'S NOTES TEAM'S NOTES FROM BOOK IMPORTANT

## Papulosquamous disease

= Any disease that the primary lesion in it is Papule with some

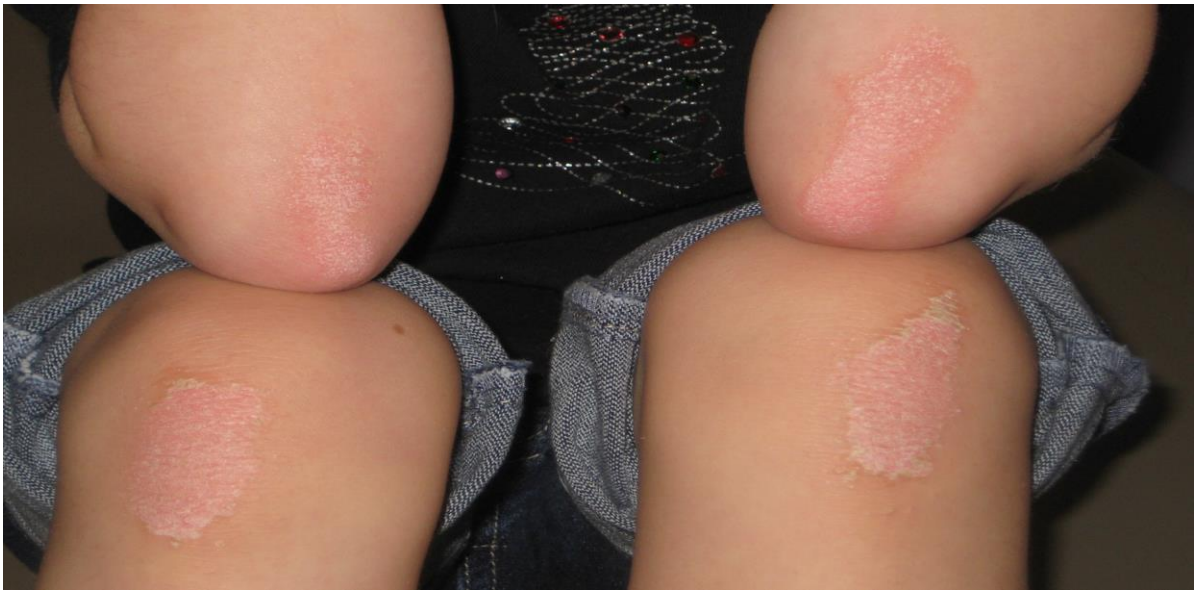
The term squamous refers to scaling that represents thick stratum corneum and thus implies an abnormal keratinization process

## Papulosquamous Diseases:

- PSORIASIS The most common & important
- Pityriasis rosea
- Lichen planus
- Seborrheic dermatitis
- Pityriasis rubra pilaris
- Secondary syphilis
- Miscellaneous mycosis fungoides, discoid lupus erythematosus, ichthyoses

# PSORIASIS

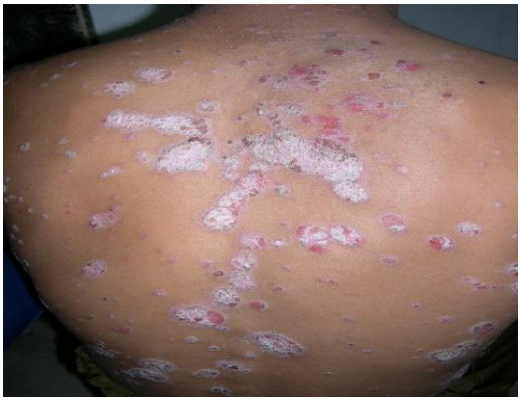
- Psoriasis is a common (2-3 %), chronic( no 100% improvement with Treatment! the treatment improve some of the clinical presentation with no 100% cure!) ,noninfectious , inflammatory skin disease.
- which affects the skin and joints . it can affect eye, GI & Liver but with lower incidence than skin & Joints.
- causes rapid skin cell reproduction resulting in red, dry patches of thickened skin.



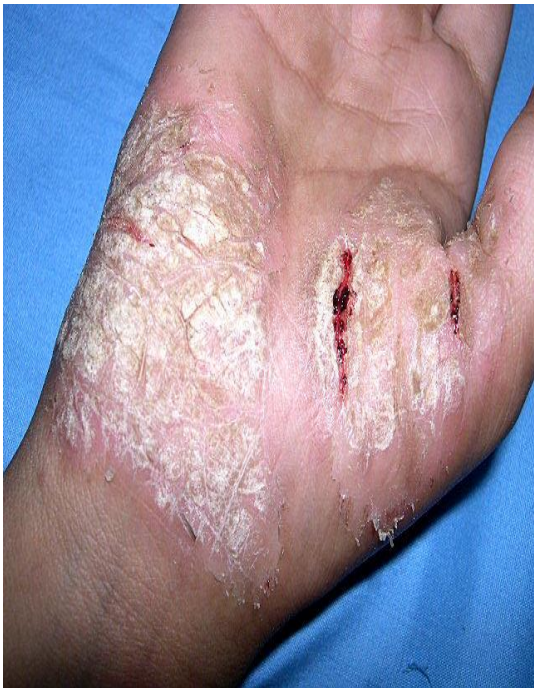
Well-demarcated regular Border, Dull Red scaly, symmetrical (bilateral) plaques

#Variety of the Redness:

1)Bright red
2) Faint red
3) Dull red



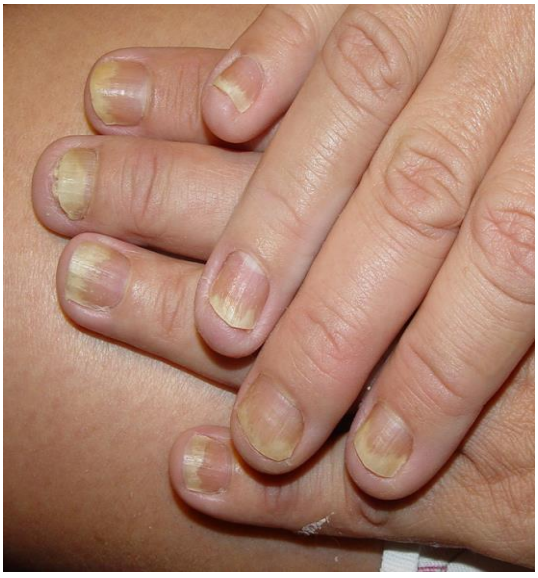
Generalized Well-defined regular papules & plaques



# Well-demarcated , dull red scaly plaques with fissures over the palm.
Fissures because the palm is already thick skin , when Psoriasis occur in it
the scales accumulate with the mechanical movements of the hand the fissure occur!

=> Additional feature of the Psoriasis in the palm & Soles is the presence of Fissures!

* the thickest skin in the palms & Soles
& the thinnest in the eyelids



- Separation of the distal nail plate from the nail bed = Distal Onycholysis (important MCQ)
- Oil drop or salmon patch.
- Nail pitting
- Scales under the nail plate = Subungual hyperkeratosis

## Incidence and aetiology:-

- The cause of PS still unknown
- 1-3%(under-estimate)
- F=M
- Any age (two peak of onset)
- Race:-any race; however, epidemiologic studies have shown a higher prevalence in western European and Scandinavian populations

No case report in the Red Indians (Almost None!)

**Pathogenesis:-**

- Exact cause is unknown
-Multi-factorial causes:-

**1-Genetic factor:-**

-ps is a multi factorial disease with a complex genetic trait
-There are two inheritance mode:-
a-one has onset in younger age with family history of ps
b-the other has onset in late adulthood without family history of ps
- one affected parent…. 16%
-both parents…. 50%
-non-psoriatic parents with affected child…. 10%
-monozygotic twins…. 70%
-dizygotic twins…. 20%
-at least 9 loci have been identified (psors-1 to 9) 9 genetic defects

**2-Epidermal cell kinetics**

-The growth fraction of basal cells is increased to almost 100% compared with 30% in normal skin (Normally Only 30% of the Basal cells are dividing but in Psoriasis 100% of the cells are dividing!!!)
-The epidermal turnover time is shortened to less than 10 days compared with 30 10 60 days in normal skin (Normally the keratinocyte takes 28 days then it leaves the body but in Psoriasis it takes only 10 Days!)

**3-Inflammtory factors:-** All the new treatments are focusing on the inflammatory factors !

-Increase level of TNF
-TNF receptors are upregulated
-Increase level of interferon gamma
-Increase level of interleukin 2 and 12,23,17

**4-Immunological factors:-**

The inflammatory mechanisms are:
-Immune based and most likely initiated and maintained primarily by T cells in the dermis
- Antigen-presenting cells in the skin, such as Langerhans cells
- Tcells
- Auspits sign

**5-Environmental factors:-** Triggers

- Infection (streptococcal infection) (in Guttate Psoriasis)
- Physical agents (eg,stress, alcoholism, smoking)
- Koebner phenomenon appearance of the skin disease at site of Trauma ! this phenomenon support the immunological theory of Psoriasis !
- Drugs (lithium,anti- malarials ,nsaid,beta-blockers) important (MCQs)

**Histology:**

-parakeratosis(nuclei retained in the horny layer) normally the cells when it reach to the the horny layer it becomes Anucleated but in Psoriasis due to the rapid division of cell the cells in the horny layer retain some of its organelles including its nucleus.

-irregular thickening of the epidermis oever the rete ridges but thinning over dermal papillae Auspit sign: when u remove the scales pinpoint bleeding occurs. => Due to the thinning of the dermal papillae and it's high up while rete ridges is down.

wiki

Auspitz's sign is the appearance of punctate bleeding spots when psoriasis scales are scraped off, named after Heinrich Auspitz.[1] This happens because there is thinning of the epidermal layer overlying the tips of the dermal papillae and blood vessels within the papillae are dilated and tortuous, which bleed readily when the scale is removed.[2]

-epidermal polymorphonuclear leucocyte infiltrates (munro abscesses)

-dilated capillary loops in the dermal papillae

-T-lymph infiltrate in the upper dermis

# when the neutrophils migrate from the Dermis to the Epidermis we call this Process = Epidermo-Tropism (MCQs)

# if the neutrophils accumulate it will give us Miceo-abscesses called Munro Abscesses

There are many types of psoriasis:-

**1-Plaque :-** Most common form of the disease (MCQ)

**2-Guttate :-** Appears as small red spots on the skin

**3-Inverse :-** Occurs in armpits, groin and skin folds

**4-Pustular :-** sterile small pustules, surrounded by red skin

**5-Erythrodermic:-** Intense redness over large areas

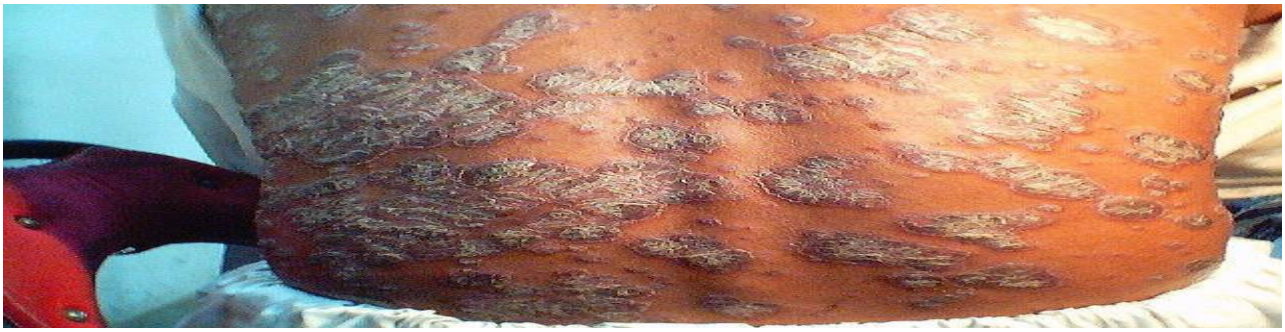
**6-Psoriatic arthritis**

Psoriasis can occur on any part of the body:-

- Scalp psoriasis
- Genital psoriasis
- Around eyes, ears, mouth and nose
- On the hands and feet
- Psoriasis of the nails

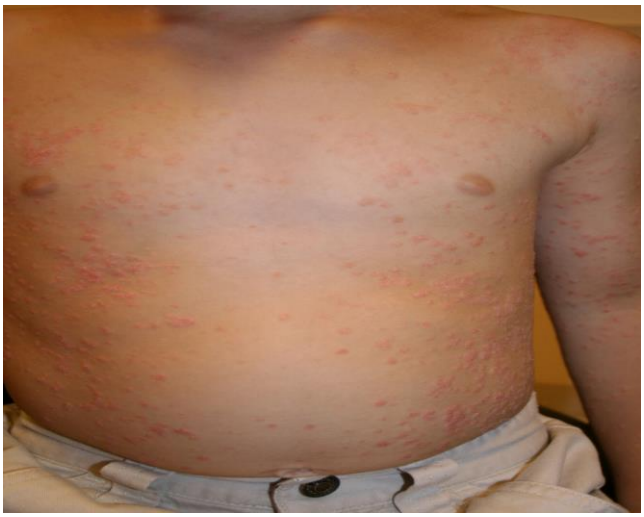
## 1-plaque psoriasis (psoriasis vulgaris) :-

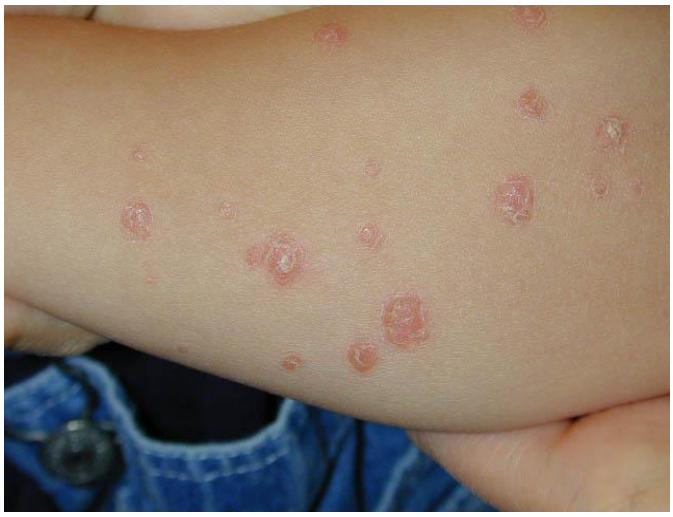
- the most common
- characterized by ROUND-TO-OVAL RED plaques distributed over extensor body surfaces and the scalp
- up to 10-20% of patients with plaque psoriasis may evolve into more severe disease, such as pustular or erythrodermic psoriasis



## 2-Psoriasis, Guttate:- important (MCQs) Guttate = Drop-like

- Small, droplike, 1-10 mm in diameter,salmon-pink papules, usually with a fine scale
- Younger than 30 years
- Upper respiratory infection secondary to group A beta hemolytic streptococci
- On the trunk and the proximal extremities "in the hidden areas"
- Resolution within few months (Self-Limited)

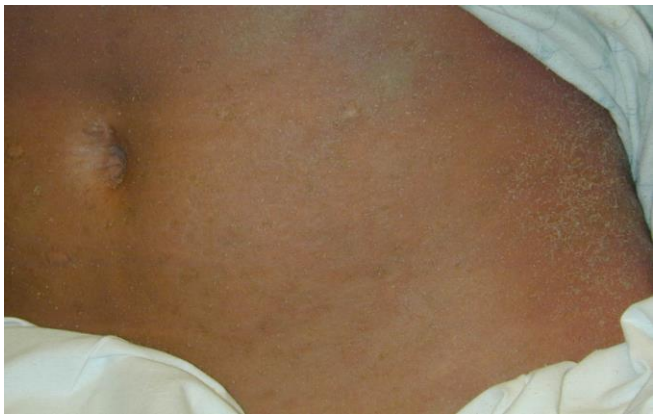




## 3-ERYTHRODERMIC PSORIASIS:- One of the Dermatological Emergency!

- Scaly erythematous lesions, involving 90% or more of the cutaneous surface
- hair may shed; nails may become ridged and thickened
- Few typical psoriatic plaques
- Unwell, fever, leucocytosis
- excessive of body heat and hypothermia due to the vasodilatation
- increase cutaneous blood flow = vasodilatation = that's why the skin is Red (Erythro)
- Increase per-cut loss of water, protein and iron iron deficiency anemia, hypo-proteinemia = Edema
- Increase per-cut permeability if we give topical therapy in erythrodermic psoriasis the systemic absorption & Toxicity increase bcoz the permeability is high!!

-They have decrease Synthesis of vit D => Vit D deficiency!



## 4-Psoriasis, Pustular:-

- the pustules are due to the Murno abscess (Micro-abscess due to the Epidermo-Tropism) if pt. come with Pustular psoriasis this means its severe type of psoriasis = Huge amount of Neutrophils are invading the skin!!
- uncommon form of psoriasis
- pustules on an erythematous background
- psoriasis vulgaris may be present before, during, or after
- pustular psoriasis may be classified into several types:

1-generalized type(von Zumbusch variant): important , dangerous

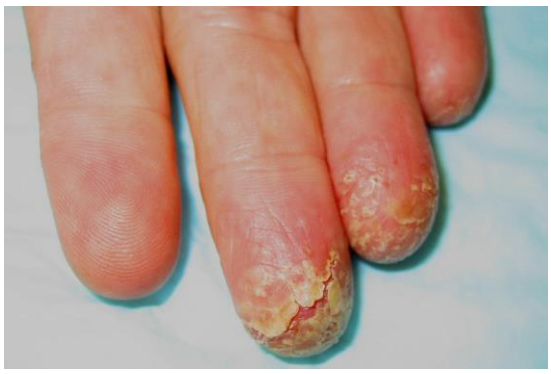
- generalized erythema studded with interfolecular pustules
- fever, tachypneic, tachycardic
- absolute lymphopenia with polymorph nuclear leukocytosis up to 40,000/µL

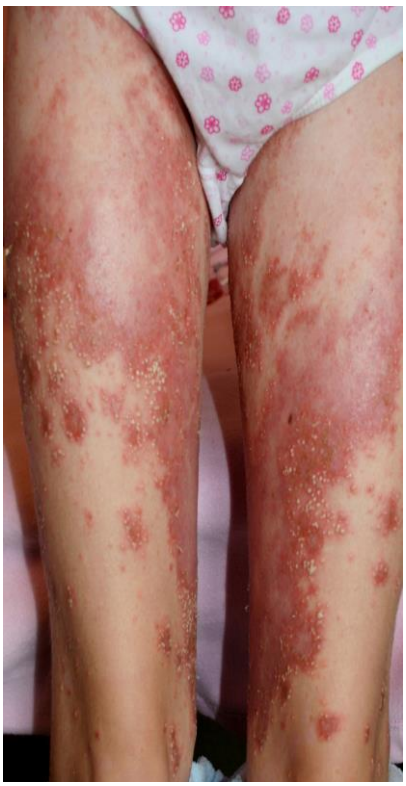
2-Localized form (palms and soles)

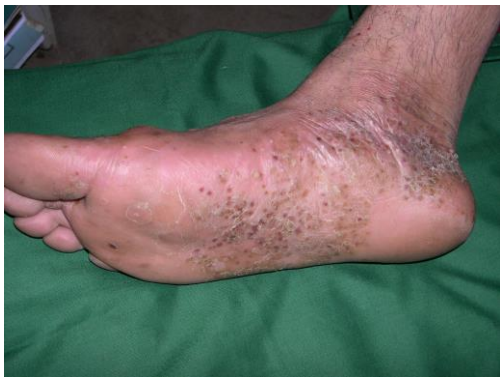
when pt. wrongly diagnosed with other skin disease (e.g Dermatitis) and they gave him Systemic steroids then after rhe improvement he decide to stop it => the Psoriasis recur but with its severe form! , or the pt. has other disease like Bornchial asthma and he had a small psoriatic lesion which has not been noticed by the pulmonologist and the pulmonologist gave him steroids for his asthma then he stopped it => Pustular Psoriasis ! (Important MCQs)

**Causes of pustular ps:-**

1. Withdrawal of systemic steroids
2. Drugs, including salicylates, lithium, phenylbutazone,, hydroxychloroquine, interferon
3. Strong, irritating topicals, including tar, anthralin, steroids under occlusion, and zinc pyrithione in shampoo
4. Infections
5. Sunlight or phototherapy
6. Cholestatic jaundice
7. Hypocalcemia
8. Idiopathic in many patients most of the time is idopathic



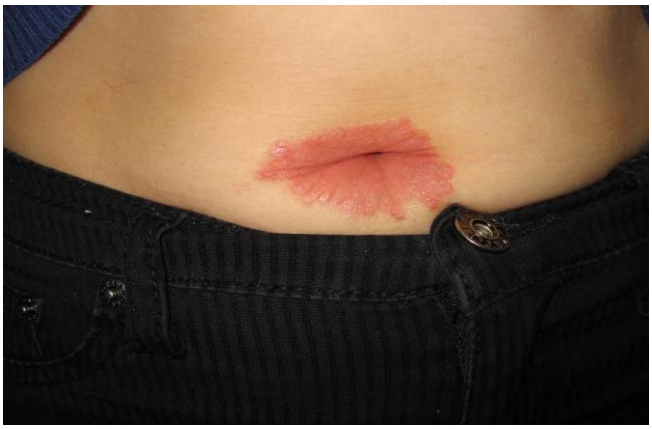




- No scales Only Pustules
- when we take swab from the pustules it comes negative! (sterile)

## 5-Psoriasis inversus(sebopsoriasis):-

- Over body folds
- The erythema and scales are very similar to that seen in seborrhoeic dermatitis
because its on wet areas we only see Erythema ! NO SCALES (Due to the wetness)



## 6-Psoriatic Arthritis:-

- 5%of patients with psoriasis develop psoriatic arthritis
- most commonly a seronegative oligoarthritis
- Asymmetric oligoarthritis occurs in as many as 70% of patients with psoriatic arthritis (MCQ)
- DIP joint involvement occurs in approximately 5-10 of patients with psoriatic arthritis
- Arthritis mutilans is a rare form of psoriatic arthritis occurring in 5% of patients with psoriatic arthritis

## 7-Psoriatic nail:-

- Psoriatic nail disease occurs in 10-55% of all patients with psoriasis
- Less than 5% of psoriatic nail disease cases occur in patients without other cutaneous findings
- Oil drop or salmon patch/nail bed Pitting
- Subungual hyperkeratosis
- Onycholysis
- Beau lines (MCQ) Horizontal grooving in the nail => due to severe acute insult to the nail growth (Stopping of the nail growth) "it's not specific to the Psoriatis" seen mostly in severe Psoriasis e.g Pustular Psoriasis

## Differential diagnosis:-

1. Bowes Disease
2. Cutaneous T-Cell Lymphoma
3. Drug Eruptions
4. Erythema Annulare Centrifugum
5. Extramammary Paget Disease
6. Lichen Planus
7. Lichen Simplex Chronicus
8. Lupus Erythematosus, Discoid
9. Lupus Erythematosus, Subacute Cutaneous
10. Nummular Dermatitis
11. Parapsoriasis
12. Pityriasis Rosea
13. Pityriasis Rubra Pilaris
14. Seborrheic Dermatitis
15. Syphilis

# the differential Diagnosis depends on the Morphology so DD of Erythrodermic Psoriasis Differ from DD of Pustular Psoriasis:

- DD of Erythrodermic Psoriasis is Erythrodermic Atopic dermaitis.

- DD of single Plaque Psoriasis is Tinea Corporis fungal infection &Nummural Eczema.

## Lab Studies:-

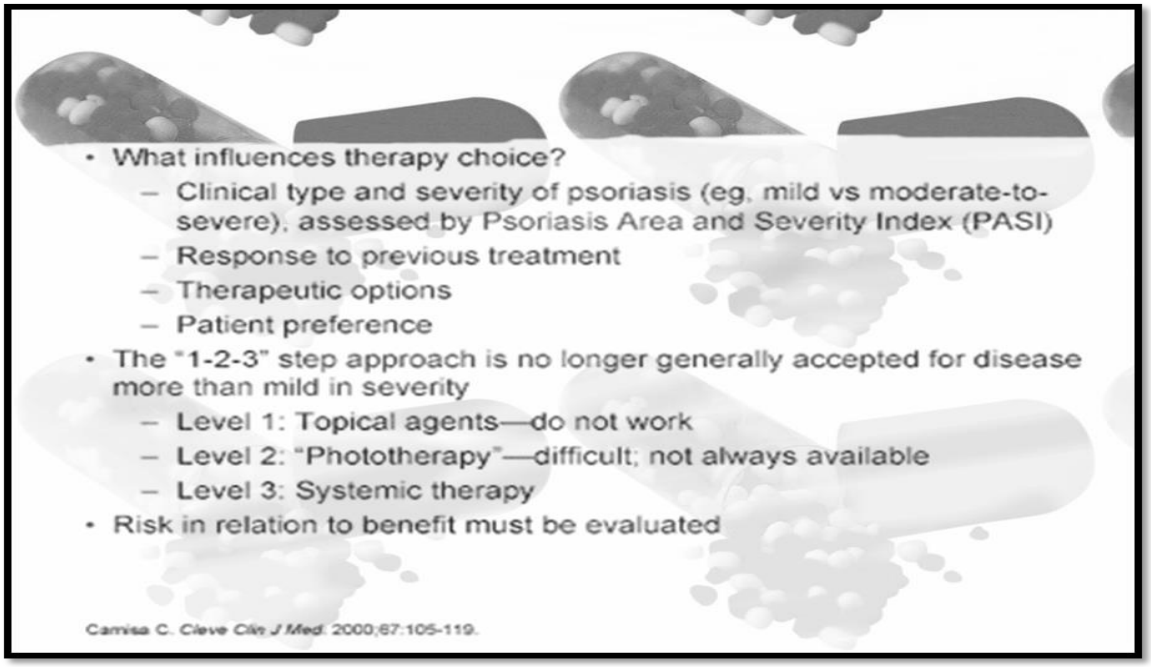
-Skin biopsy
-others

- # 2 schools in Dermatology:
  - Any Chronic skin Condition we have to take biopsy.
  - if the presentation is Classical dont take biopsy.

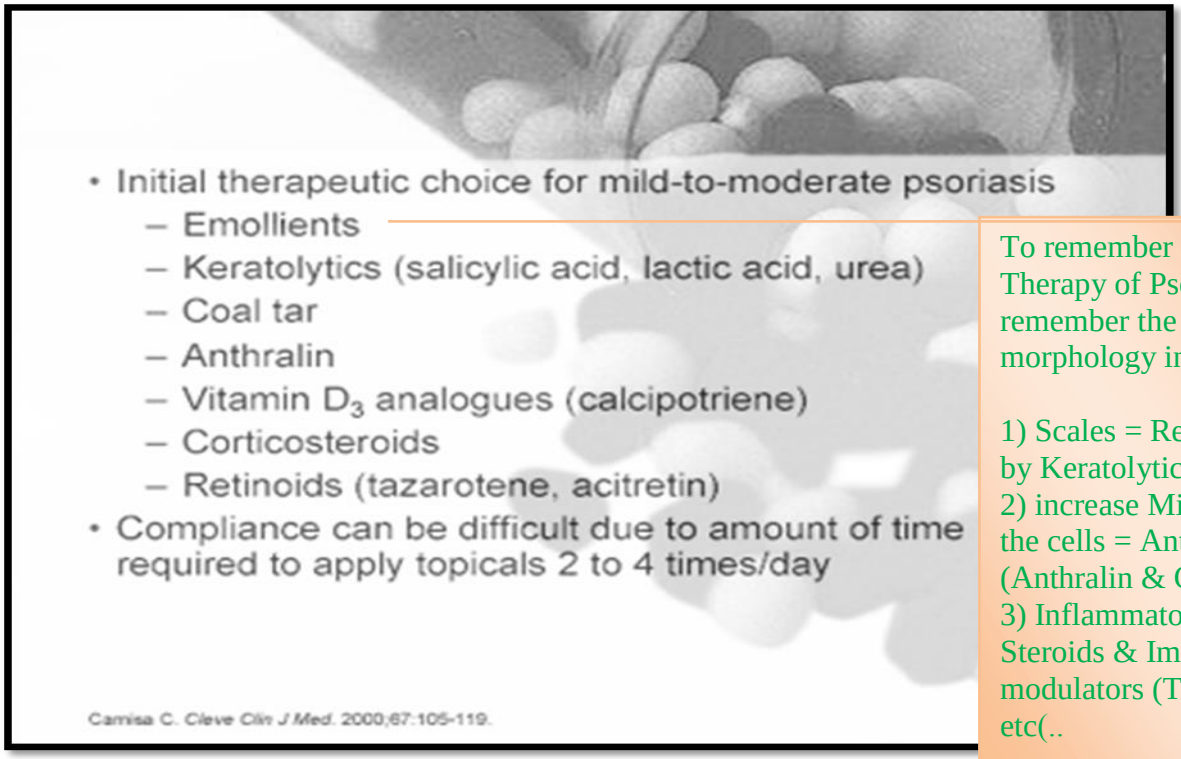
BUT there's a Rule says that if u have even One DD take biopsy!

- investigation for the complications of the disease (Depends on the type, e.g in Erythrodermic Psoriasis we do iron level) OR Investigation for the Treatment.

## Treatment of psoriasis:-

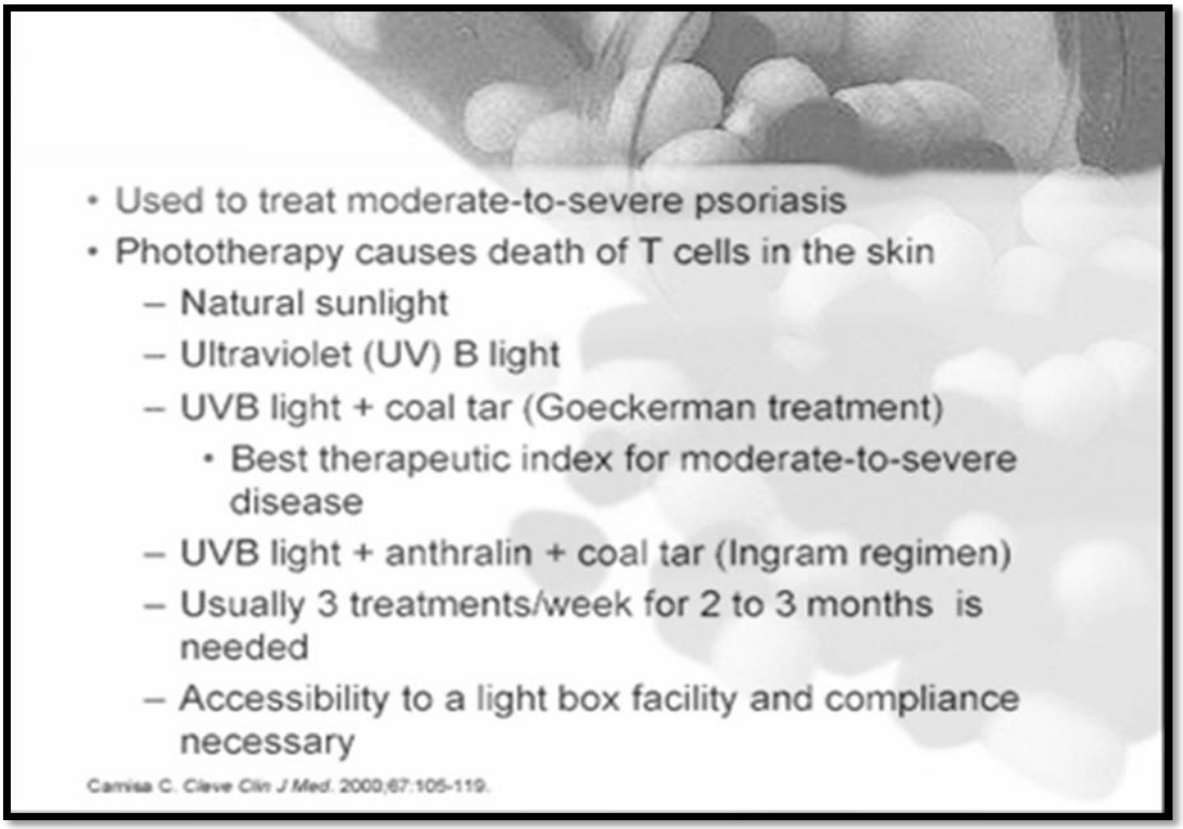



## Topical Agents

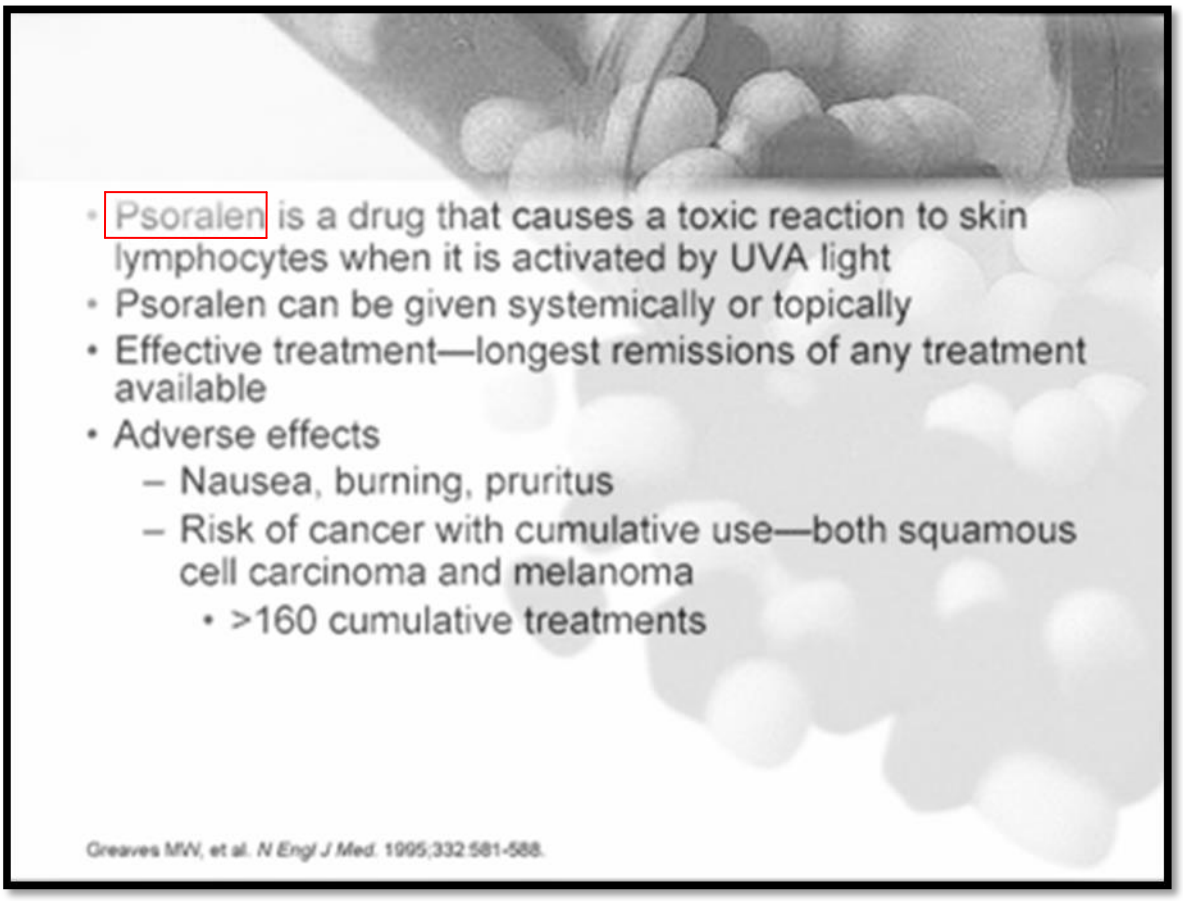



To remember theTopical Therapy of Psoriasis remember the morphology in Psoriasis:

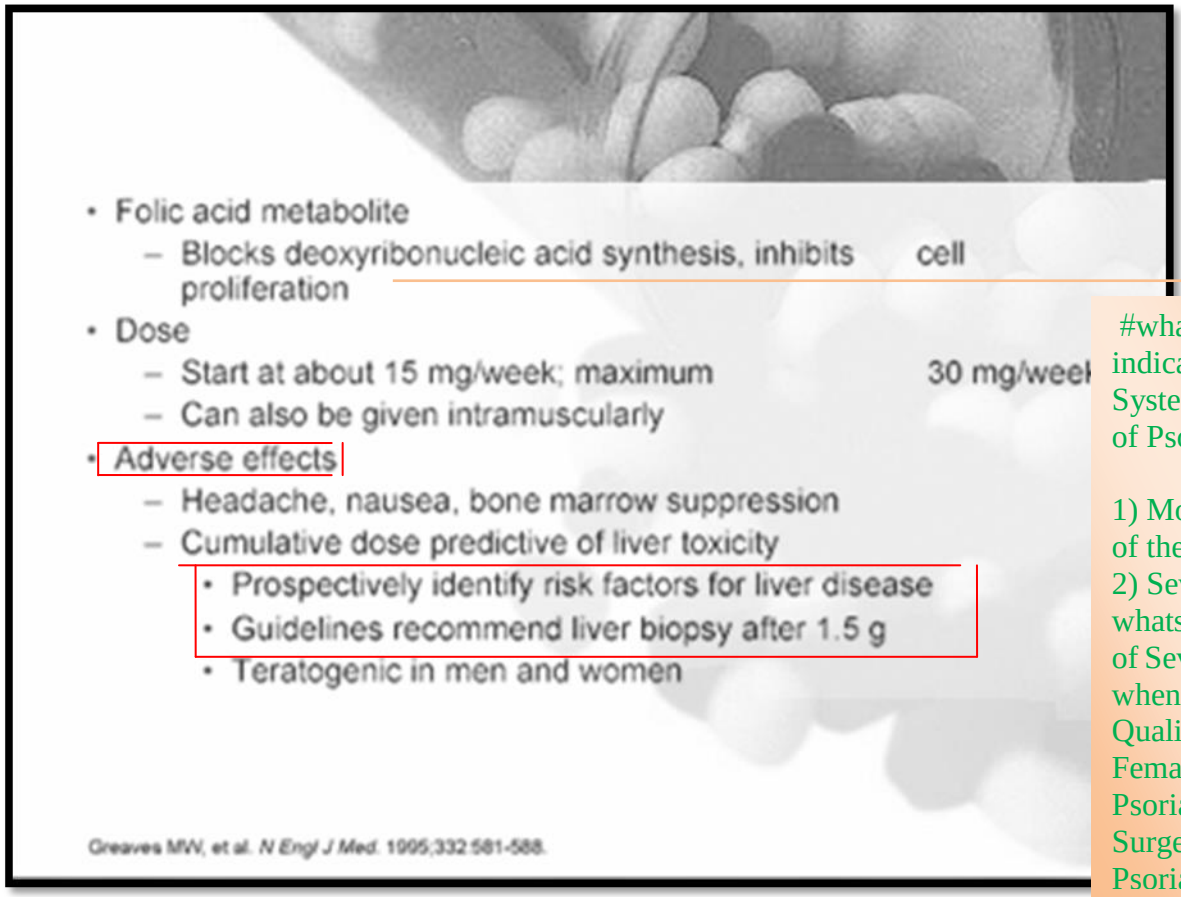
1) Scales = Remove it by Keratolytics.
2) increase Mitosis in the cells = Anti-Mitotic (Anthralin & Coal tar(
3) Inflammatory cells = Steroids & Immuno-modulators (Tacrolimus etc(..




**Uva Light with psoralen (PUVA)**



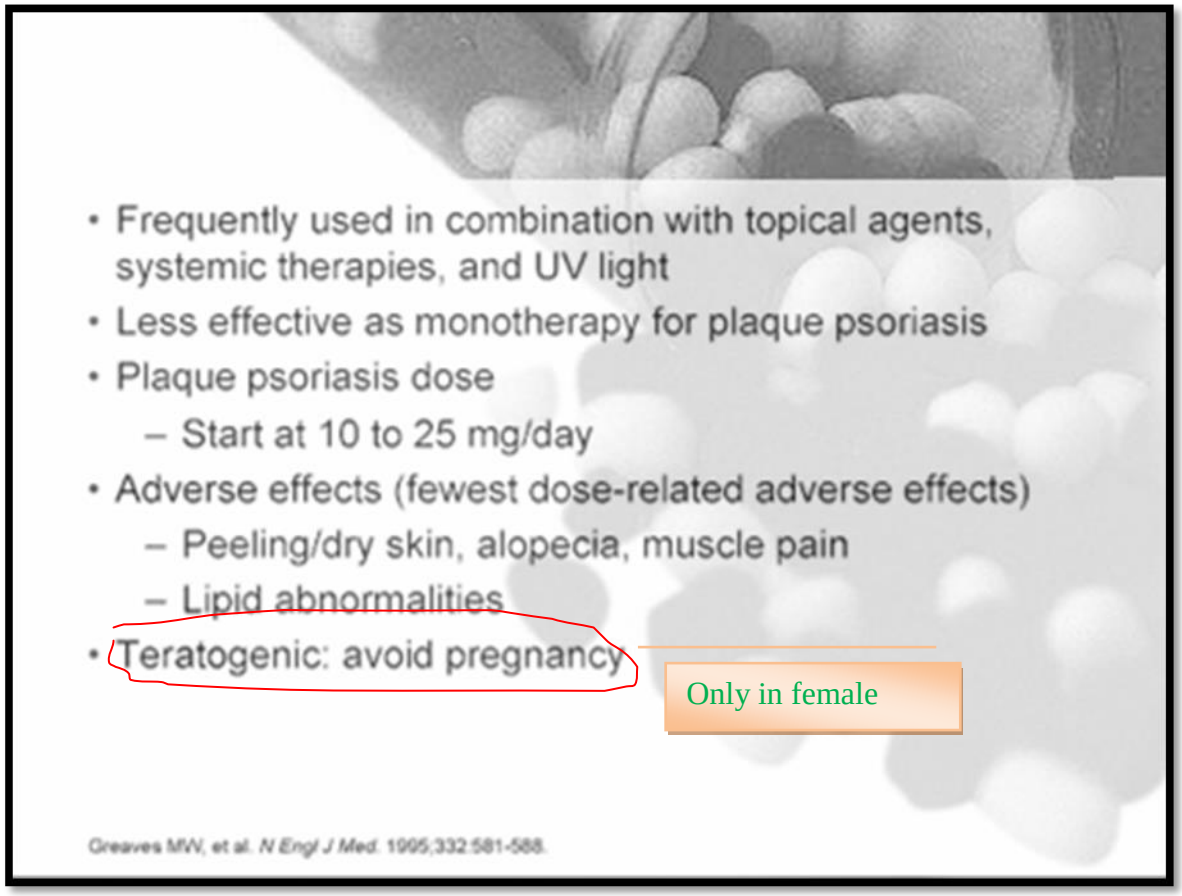
## Methotrexate




#whats the indications of Systemic Therapy of Psoriasis ؟

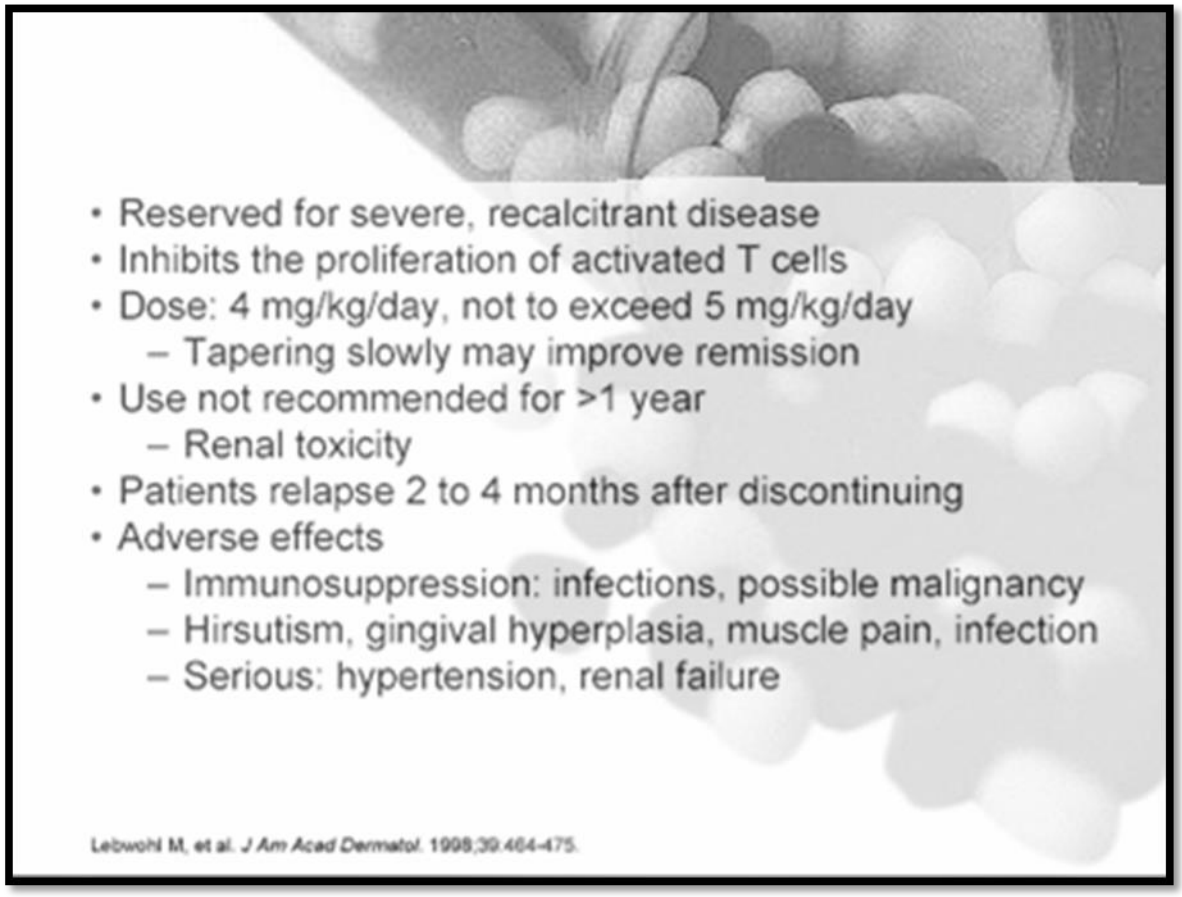
1) More than 20% of the skin.
2) Severe:
whats the definition of Severe Psoriasis ، when its affect the Quality of Life (e.g Female with Scalp Psoriasis or Surgeon with Hand Psoriasis.(!!

## Acitretin: Orel Retinoid




Only in female

## Cyclosporine




## Biologic Therapies for the treatment of psoriasis

Lines of Treatment in Psoriasis:
1- Topical Therapy.
2- Systemic Therapy (if more than 20% of surface area OR it affect the Quality of Life)
3- Phototherapy.
4- Biological Therapy
5- Cytotoxic Medications (Methatrexase, Vit A derivatives , Cyclosporine etc..)

Biological Therapies generally are safe but the most important Side effect is reactivation of chronic infections Especially TB so we need to do test for it (e.g PPD or QuantiFERON)

- PPD = Give 10 units of PPD and read it after 48 to 72 hrs
the induration should be more than 15 to be positive, from 5 - 10 = Gray area we should do QuantiFERON to confirm.

## Alefacept (Amevive) :-

Is the first biologic agent approved by the FDA for the treatment of psoriasis
-It works by blocking T cell activation and proliferation by binding to CD2 receptors on T cells
-This stops the T cells from releasing cytokines, which is the primary cause of the inflammation
-7.5 mg by intravenous injection or 15 mg by intramuscular injection once weekly for 12 weeks
-S/E:-dizziness, cough, nausea, itching, muscle aches, chills, injection site pain and injection site redness and swelling
-Infections

## Etanercept (enbril):-

This molecule serves as an exogenous TNF receptor and prevents excess TNF from binding to cell-bound receptors
-50mg SC given twice weekly for 3 mo, then 50 mg SC qwk
-Contraindications:-
-sepsis, active infection, concurrent live vaccination
-S/E:-
-injection site reactions (most commom)
-upper respiratory tract infections

Adalimumab (Humira) Work on TNF Receptor
Infliximab (Remicade) Work on TNF Receptor
Ustekinumab (Stelara) Anti-Interleukin (injection every 3 month)

# Lichen Planus

### - Background:

- Lichen planus (LP) is a pruritic, papular eruption characterized by its violaceous color; polygonal shape; and, sometimes, fine scale
- It is most commonly found on the flexor surfaces of the upper extremities, on the genitalia, and on the mucous membranes.

## Epidemiology:-

-Approximately 1% of all new patients seen at health care clinics
-Rare in children
-F=M
-No racial predispositions have been noted
-LP can occur at any age but two thirds of patients are aged 30-60 years

## Pathophysiology:-

- The cause of LP is unknown
- LP may be a cell-mediated immune response of unknown origin
- LP may be found with other diseases of altered immunity like ulcerative colitis, alopecia areata, vitiligo, dermatomyositis
- An association is noted between LP and hepatitis C virus infection ,chronic active hepatitis, and primary biliary cirrhosis
- Familial cases
- Drug may induce lichenoid reaction like: thiazide,antimalarials,propranolol

## Clinical features:-

- Most cases are insidious
- The initial lesion is usually located on the flexor surface of the limbs
- After a week or more, a generalized eruption develops with maximal spreading within 2-16 weeks-
- Pruritus is common but varies in severity
- Oral lesions may be asymptomatic or have a burning sensation
- In more than 50% of patients with cutaneous disease, the lesions resolve within 6 months, and 85% of cases subside within 18 months
- The papules are violaceous, shiny, and polygonal; varying in size from 1 mm to greater than 1 cm in diameter
- They can be discrete or arranged in groups of lines or Circles
- Characteristic fine, white lines, called Wickham stria, are often found on the papules
- Oral lesions are classified as reticular, plaquelike, atrophic, papular, erosive, and bullous
- Ulcerated oral lesions may have a higher incidence of malignant transformation
- Genital involvement is common in men with cutaneous disease
- Vulvar involvement can range from reticulate papules to severe erosions

## Variations in LP:-

**1-Hypertrophic LP:-**

These extremely pruritic lesions are most often found on the extensor surfaces of the lower extremities, especially around the ankles

**2-Atrophic LP:-**

-is characterized by a few lesions, which are often the resolution of annular or hypertrophic lesions

**3-Erosive LP**

**4-Follicular LP:-**

-keratotic papules that may coalesce into plaques

-A scarring alopecia may result

**5-Annular LP:-**

-Annular lesions with an atrophic center can be found on the buccal mucosa and the male genitalia

**6-Vesicular and bullous LP**

-develop on the lower limbs or in the mouth from preexisting LP lesions

**7-Actinic LP:-**

-Africa, the Middle East, and India

-mildly pruritic eruption

-characterized by nummular patches with a hypopigmented zone surrounding a hyperpigmented center

**8-LP pigmentosus;-**

-common in persons with darker-pigmented skin

-usually appears on face and neck

## LP and nail:-

- In 10% of patients
- nail plate thinning causes longitudinal grooving and ridging
- subungual hyperkeratosis, onycholysis
- Rarely, the matrix can be permanently destroyed with prominent pterygium formation
- twenty-nail dystrophy

## DIFFERENTIALS:-

- Graft Versus Host Disease
- Lichen Nitidus
- Lichen Simplex Chronicus
- Pityriasis Rosea
- Psoriasis, Guttate
- Psoriasis, Plaque
- Syphilis
- Tine Corporis

## TREATMENT

- self-limited disease that usually resolves within 8-12 months
- Anti-histamine
- topical steroids, particularly class I or II ointments
- systemic steroids for symptom control and possibly more rapid resolution
- Oral acitretin
- Photo-therapy
- Others

# Pityriasis Rosea

## Definition:-

-Acute mild inflammtory exanthem.
-Characterized by the development of erythematous scaly macules on the trunk.

## Epidemiology:-

-In children and young adult
-Increased incidence in spring and autum
-PR has been estimated to account for 2% of dermatology outpatient visits
-PR is more common in women than in men

## Pathophysiology:-

-PR considered to be a viral exanthem
-Immunologic data suggest a viral etiology
- Families and close contacts
-A single outbreak tends to elicit lifelong immunity
-Human herpesvirus (HHV)–7and HHV-6
-PR-like drug eruptions may be difficult to distinguish from non–drug-induced cases
-Captopril, metronidazole, isotretinoin, penicillamine, bismuth, gold, barbiturates, and omeprazole.

## CLINICAL FEATURES:-

- Begins with a solitary macule that heralds the eruption(herald spot/patch )
- Usually a salmon-colored macule
- 0ver a few days it become a patch with a collarette of fine scale just inside the well-demarcated border
- Within the next 1-2 weeks, a generalized exanthem usually appears
- Bilateral and symmetric macules with a collarette scale oriented with their long axes along cleavage lines
- Tends to resolve over the next 6 weeks
- Pruritus is common, usually of mild-to-moderate severity
- Over trunk and proximal limbs

## Atypical form of PR:-

- Occurs in 20% of patients
- Inverse PR
- Unilateral variant
- Papular PR
- Erythema multiforme–like
- Purpuric PR

## DIFFERENTIALS:-

`- Lichen Planus
- Nummular Dermatitis
- Pityriasis Lichenoides
- Psoriasis, Guttate
- Seborrheic Dermatitis
- Syphilis
- ine Corporis

## TREATMENT

- -Reassurance that the rash will resolve
- -Relief of pruritus
- -Topical menthol-phenol lotion
- -Oral antihistamines
- -Topical steroids
- -Systemic steroids
- -Ultraviolet B (UV-B) light therapy