

Psoriasis And Other Papulosquamous Disorders

Objectives:

1. Not given

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- Extra

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Editing file

Psoriasis

Introduction:

- Psoriasis is an **Complex** (Genetic + environmental factors) **immune-mediated polygenic** (Multiple genes involved) **skin disorder**. Various environmental triggering factors, e.g. trauma, stress, infections and medications, may elicit disease in genetically predisposed individuals.

Epidemiology:

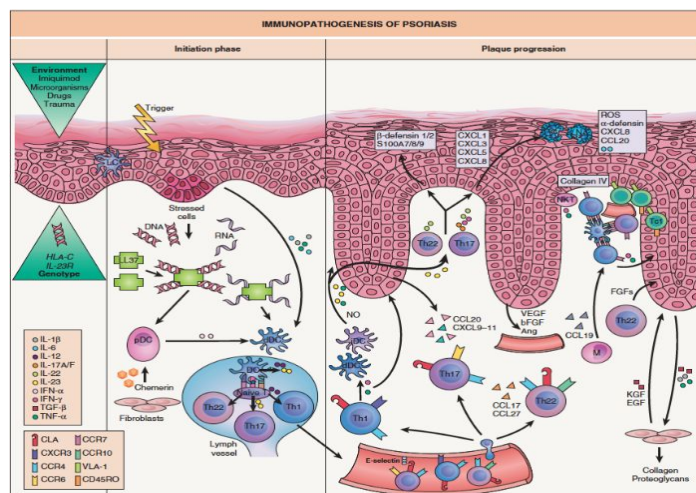
- 2% of population (LP is less than 1%) (0.7% of Asian/African).
- 0.7% juvenile psoriasis.
- Only 25% have severe psoriasis.
- Bimodal disease (20-30s/50-60s).
- Two third of patients have family history of psoriasis (Strong family history in comparison to LP).
- Child risk: one parent 14% two parent 40%

Genetics: very imp

- Nine psoriasis susceptibility regions (PSORS1-9)** in different chromosomal locations.
- PSORS1** (on chromosome 6p), account for up to 50% of psoriasis risk.
- PSORS1** contains genes such as **HLA-Cw6** which is important protein in immune system (from every two patients, one has this gene).
- HLA-Cw6** is strongly linked to the age of onset of psoriasis.
 - 90% of the patients with early-onset psoriasis.
 - 50% of the patients with late-onset psoriasis.
- Early-onset psoriasis, positive family history and expression of HLA-Cw6 (**type I psoriasis**).
- Late-onset disease, no family history and a lack of expression of HLA-Cw6 (**type II psoriasis**).

PSORIASIS SUSCEPTIBILITY GENES					
Class	Gene(s)	Pathway	Protein function	OR	Disease overlap
Skin specific	LCN3B/SC3D	Skin barrier formation	KC structural protein	1.26	
	KLFA	Skin barrier formation	Transcription factor	1.12	
	ITIH3	IL-17 signaling	Unknown	1.12	
	IL-28RA	IFN signaling	IL-29 receptor subunit	1.21	
	IFIH1	IFN signaling	Innate antiviral receptor	1.27	
	RNF114	IFN signaling	E3 ubiquitin ligase	1.16	
	IL23R	IFN signaling	Involved in TNF-mediated IFN- α signaling	1.11	
	DDX58	IFN signaling	Innate antiviral receptor	1.11	
	NOS2	Inflammation	Induced nitric oxide synthase	1.22	
	NEL	NF- κ B signaling	NF- κ B subunit	1.17	RA
At the interface between innate and adaptive immunity	TNFR1	NF- κ B signaling	Inhibitor of TNF-induced NF- κ B activation	1.29	
	TNFR2	NF- κ B signaling	Inhibitor of TNF-induced NF- κ B activation	1.23	
	NFKB1	NF- κ B signaling	Inhibitor of NF- κ B activation	1.16	
	FBXL19	NF- κ B signaling	Putative inhibitor of NF- κ B activation	1.16	
	CARM1	NF- κ B signaling	Activator of NF- κ B pathway	1.11	
	CARM2	NF- κ B signaling	Transcriptional coactivator of NF- κ B	1.17	
	UBE2L3*	NF- κ B signaling	Ubiquitin-conjugating enzyme	1.13	Col, RA, Cro
	TRAF3IP3	IL-23/IL-17 axis	Adaptor molecule mediating IL-17-induced NF- κ B activation	1.52	
	IL-12R	IL-23/IL-17 axis	Shared subunit of IL-12/IL-23	1.58	
	IL-23A	IL-23/IL-17 axis	Unique subunit of IL-23	1.39	
Adaptive immunity	77K2	IL-23/IL-17 axis	Tyrosine kinase associated with cytokines receptors	1.86	
	H4C	Antigen presentation	MHC class I antigen	4.32	
	ERAP1	Antigen presentation	Enzyme processing MHC class I ligands	1.2	AS
	IL-23R	IL-23/IL-17 axis	Unique subunit of IL-23 receptor complex	1.52	AS, UC, Cro
	STAT3*	IL-23/IL-17 axis	Transcription factor	1.15	
	IRF4*	IL-17 signaling	Transcription factor	1.12	
	RUNX3	T-bet pathway	Transcription factor	1.13	AS, Cel
	IL-4R-13	IL-4 and IL-13 cytokines	Adaptor molecule	1.13	
	TNFRSF25*	T-cell differentiation	Adaptor molecule	1.12	RA
	TRAF6*	T-cell activation	Rho GTPase-activating protein	1.12	RA
Other	ZM2D	TGF- β signaling	Protein inhibitor of activated STAT (PIAS) family of proteins	1.1	MS
	SOC2	Type II IFN signaling	Suppressor of cytokine signaling	1.13	
	PRDX5	Intracellular redox signaling	Antioxidant enzyme	1.09	
	AKCMT2	Carbohydrate metabolism	Enzyme	1.12	AS
	ABCS1*	Unknown	Transcriptional repressor	1.12	
ZNF123C	Unknown	Zinc finger protein with putative RNase function	1.14		

Pathogenesis:



Color Index:
 Pathogenesis
 Pathology
 Clinical feature

- 1- A Trigger (auto antigen or exogenous source) will cause protein changes in epidermis in susceptible people (who have defect in some genes) start to present some of its antigen to APC.
- 2- Antigen Presenting cells (Langerhans cells and keratinocytes) in the skin will recognize the antigen and present it to the naive lymphocyte.
- 3- APC will make the T helper cell attack the antigen which is your own epidermis (Whenever this triggers come back again it will trigger the immune system continuously). This will lead to superficial perivascular infiltrate.
- 4- Lymphocyte will secrete cytokines and this will lead to vasodilation (erythema).
- 5- Too much cytokines will stimulate the epidermis and it will lead to Acanthosis (which is elongation of rete ridges in the papillae) (induration and Plaque).
- 6- Continuous stimulation of cytokines will accelerate the journey of Immature cells in basal layer to epidermis from 14 days to 3-4 days which will lead to Parakeratosis (the cells are not mature enough to become Corneocytes) (scale).

Psoriasis

Triggers:

- Trauma
- Stress (emotional stress eg. alopecia areata/vitiligo)
- Infections: e.g. **Streptococcal infections** (group A), especially pharyngitis (most common infection to cause psoriasis).
- Drugs: e.g. **lithium, IFNs, β-blockers, and antimalarial** (IFNs and antimalarial drugs cause lichen planus).
- Hypocalcemia has been reported to be a triggering factor for generalized pustular psoriasis (happen in pregnancy).



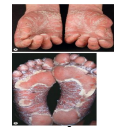
If scratched causes candle sign
If peeled causes auspitz sign



Classic Chronic Plaque type Psoriasis

1- Chronic Plaque Psoriasis: (~90%)

- **Symmetric sharply defined erythematous plaques with thick silvery scale** over the scalp, elbows, knees and lumbosacral area which is associated sometimes with hyperkeratosis of the hands and feet.
- Has these signs:
 - **Auspitz sign:** when removing a scale pinpoint bleeding occurs which represents the dilated capillaries.
 - Woronoff sign: hypopigmented rim due to topical steroids use.
 - Candle sign.
- **Types chronic plaque psoriasis:**
 - **Guttate psoriasis** looks like rain (more common in children and adolescents and preceded by an upper respiratory tract infection "strept")
 - **Flexural psoriasis** affects Axillae, groin and genital areas (humid areas masks the scales presented mistakenly as a resistant fungal infection > suspect psoriasis) and presents as well demarcated erythematous plaque **without scales**.
 - **sebopsoriasis:** indeterminate stage. (seborrheic dermatitis and psoriasis in the same patient)



Sacral area



2- Pustular Psoriasis: (~9%)

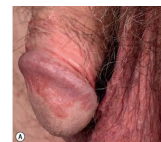
- All are the same but named according to site of involvement.
- **Generalized pustular psoriasis (von Zumbusch pattern):**
 - ill patient with **constitutional symptoms** present with generalized abrupt painful eruption with erythema and **pustulation** starting over the intertriginous areas and trunk.
- **Palmoplantar pustulosis (localized):**
 - Associated with SAPHO syndrome (Synovitis, Acne, Pustulosis, Hyperostosis and Osteitis).
- **Acrodermatitis continua of Hallopeau :**
 - Pustules over the distal portions of the fingers followed by scaling and crust formation. Pustules may also form subungual which **might cause shedding of nail plates**.



Palmoplantar pustulosis.



Guttate Psoriasis



Flexural psoriasis, Notice there isn't any scaling



Pustular psoriasis. sheets of erythema with pustules

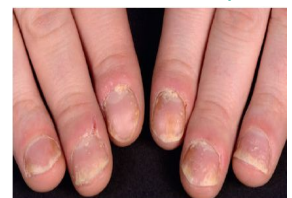


Acrodermatitis Continua of hallopeau (sama as Pustular Psoriasis but in the fingers) lead to anonychia.

3- Erythrodermic Psoriasis (EMERGENCY) (~1%). Confirm by skin biopsy Involvement of >85-90% of body surface area with erythema >temp/electrolyte imbalance and risk of infection psoriasis is one of the pathologies that can develop into erythroderma

Nail: (more than ¾ of pt have nail involvement, ¼ of pt have joint involvement)

- **Involved in 80% of patients (Thick and yellow nails).**
- Patients with nail involvement appear to have an increased incidence of psoriatic arthritis.
 - **Pitting** (parakeratosis of the nail matrix).
 - **Oil-spot** (leukocytes beneath the nail plate).
 - **Onycholysis** (parakeratosis of the distal nail bed).



Pitting, Oil-spot, Onycholysis, Subungual hyperkeratosis and thickening of the nail

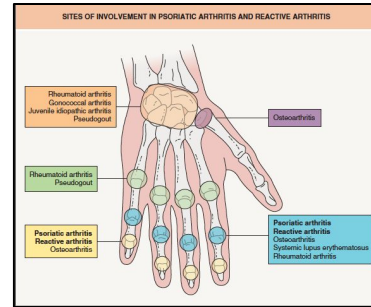
Psoriasis

Oral mucosa: (not common in comparison to LP)

- Migratory annular erythematous lesions with hydrated white scale over the tongue (**geographic tongue**) observed mainly in pustular psoriasis patients.

Psoriatic Arthritis:

- 25% of patients
- **Asymmetric distal mono-oligoarthritis** (most common type) Inflammation of the **DIP** and **PIP** joints of the hands and feet (**small joints**). Involvement of both the DIP and PIP joints of a single digit can result in **“sausage” digit**.
- Least common presentations:
 - **Rheumatoid arthritis-like:**
Symmetric polyarthritis that involves small and medium-sized joints.
 - **Arthritis Mutilans** (**severe deformity in joints could cause shortening of digits**).
 - **Spondylitis and Sacroiliitis**.



Associations: (psoriasis can increase risk of the following and vice versa)

- **Hyperlipidemia and metabolic syndrome.**
- **Diabetes Mellitus**
- **Atherosclerosis.**
- **Non-alcoholic steatohepatitis** we can't give methotrexate to Psoriatic arthritis patients because it might jeopardize the liver and cause further complications.
- **Depression and anxiety** that might lead to substance use.
- **Substance addiction.**
- **Parkinsonism.**

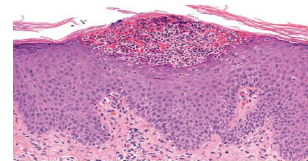
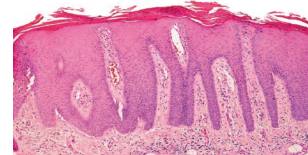


Fig. 8.19 Spongiform pustule of Kogoj. A collection of neutrophils is seen within the upper stratum spinosum. (Courtesy, Lawrence C. Garcia, MD)



Superficial perivascular infiltrate (lymphocyte), Dilated vessels and Elongation

Pathology:

- Classically, **Superficial perivascular lymphocytic infiltrate** with even elongation of rete ridges, dilated capillaries in papillary dermis which associated with **spongiosis**, **acanthosis** and **parakeratosis**.
- In late lesions (**Secondary phenomenon**), accumulation of neutrophils within a spongiotic pustule **“spongiform pustule of Kogoj”** or sub-corneal accumulation of neutrophils **“microabscess of Munro”** (exaggerated in pustular psoriasis).

Treatment:

- Focal disease:**
 - Topical corticosteroids.**
 - VitD3 analogues (calcipotriene). The top treatment is Combination of vit D3 + Topical Corticosteroids.**
 - Coal tar.
 - Anthralin.
 - Tazarotene.
 - 10% salicylic acid.
 - We apply peeling agents to increase the absorption of corticosteroids**

- Widespread disease:**

Systemic steroids are contraindicated for treating psoriasis because of conversion (turns chronic plaque type into pustular). can be used in pustular psoriasis of pregnancy for safety (biologic therapy is safer).

Widespread Disease Treatment	
Chronic plaque type	Pustular type
MTX First line	Retinoids First line
Anti-TNF	Cyclosporine
NBUVB/PUVA	MTX
Anti-IL 12/23	NBUVB/PUVA
Anti-IL 17A	
Cyclosporine “consider renal toxicity”	
Retinoids (acitretin) Kept in fat tissue for years; avoid it in child bearing age due to its teratogenicity	In contrast to isotretinoin (hydrophilic) which is cleared in a month

Lichen planus

Introduction:

- Lichen Planus is an **Complex immune-mediated** polygenic skin disorder. Various environmental triggering factors, e.g. Stress, infections and medications may elicit the disease in genetically predisposed individuals.

Epidemiology:

- Types of Lichen planus : cutaneous, mucosal and follicular.
- Cutaneous Lichen planus affects **less than 1% of population** (Rare).
- Oral (Mucosal) Lichen planus (1-5%) more common (Dentist encounter these patients more).
- It usually affect **adult (30-60 years)** but it can rarely affect children.
- It doesn't have any gender/race predilection.
- Familial cases are underestimated (some about 10%).
- 75% of cutaneous Lichen planus have mucosal involvement specifically Oral.
- 25% of Oral Lichen planus have cutaneous Lichen planus.
- Some expert consider them separate disease.

Causes:

- Idiopathic complex polygenic condition.

Genetic Predisposition:

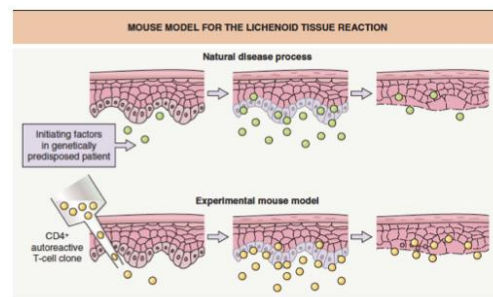
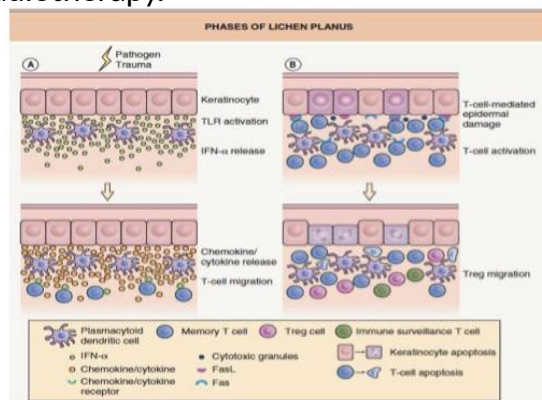
- Six single nucleotide polymorphisms (SNPs) were found to be associated the **HLA- DQB1**.
- 05:01 haplotype associated with Lichen planus.
- HLA-A5 ,HLA-A3,147,148, HLA-B7,143 HLA-DR1,149,150.
- HLA-DR10 in Arab population.
- HLA-DRB1** 01:01 in Sardinien & Mexican population.

Antigenic Triggers:

- Pathogens (**Viral hepatitis-HCV** (strongly associated mainly with cutaneous LP/order HCV panel).
- Geographic variation.
- IFN therapy initiate or worsen LP.**
- Liver disease e.g. sclerosing cholangitis chronic liver disease.
- Vaccination.**
- Medication** (Lichenoid drug eruption e.g. antimalarials and IFNs).
- Contact sensitizer** e.g. **mercury amalgam** حشوة الأسنان الزئبقية (it causes a lot of cases of LP, changing it to ceramic will improve the disease **50% will cure**), color film developers, methacrylic acid esters, dimethyl fumarate in sofas and radiotherapy.

Immuno-pathogenesis:

- 1- Superficial Perivascular infiltrate.
- 2- Severe inflammation cause thinning of epidermis (Saw tooth).
- 3- Retention of cells (immature).



An immune-mediated mechanism involving activated T cells (By the trigger), particularly CD8+ T cells (cytotoxic cells which will kill the keratinocytes), directed against basal keratinocytes has been proposed (In Psoriasis T helper CD4+ cell will be activated and it will cause inflammation). Upregulation of intercellular adhesion molecule-1 (ICAM-1) and cytokines associated with a Th1 immune response, such as interferon (IFN)-gamma, tumor necrosis factor (TNF)-alpha, interleukin (IL)-1 alpha, IL-6, and IL-8, may also play a role in the pathogenesis of lichen planus. The target in psoriasis and lichen planus is basal cells, the difference is what comes after. In psoriasis excessive cell division and differentiation, lichen planus the cells die and undergo macular degeneration.

Lichen planus

Clinical presentation: (5 Ps)

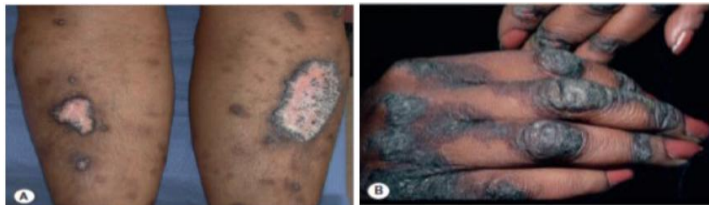
- Itchy (rubbing) not scratching **Pruritic Polygonal Purple flat-topped (Plane) Papule & Plaques with Wickham's striae** (Pathognomonic (wedge shaped hypergranulosis) it is a whitish lines visible in the papules of LP) over flexural surface of extremities ,wrist, legs, lower abdomen and genitalia.
- Pruritic well defined flat topped violaceous plaques and papules.

Variants:

By morphology	By configuration
Hypertrophic-leg	Annular-penis
Atrophic	Liner
Ulcerative-palm/soles	
Ballous	



Pruritic flat topped violaceous plaques and papules in the wrist.



Lichen planus pigmentosus (generalized) papules in the wrist and actinic (sun exposed areas) Well defined slate gray patches sometimes with violaceous rim or hypopigmented halo, but it's not in the picture.



Annular Lichen planus of penis (never progress).
More common genitalia involvement in comparison to Psoriasis.

Types of LP: (by Presentation)

1- Lichen planus Pigmentosus:

- It is more common in dark skin people and it presents as **well- defined brown to slate-gray patches** with/without **violaceous** indurated border or hypopigmented halo over **axilla/groin & proximal limbs** (may come on the face).



Pigmentosus (no rim neither halo).

2- Lichen planus actinicus:

- Sun exposed area (same disease and presentation as Lichen planus Pigmentosus but named according to site of involvement).

3- Mucosal Lichen planus:

- The most common site of involvement is the oral mucosa which usually present as **well-defined reticulated violaceous plaques** over **buccal mucosa, lips and gingiva** (oral involvement is rare).

Varintes:

- **Reticulated.**
- **Erosive** (less than 1% risk of SCC) If there is an oral ulcer you should take biopsy. This risk increased by smoking
- **Atrophic.**
- **Hypertrophic.**
- **Figure 8 Lichen planus: very itchy (genitalia+anal area)** It can affect other mucosal surfaces e.g. vulvar, vaginal and penile- Vulvovaginingival syndrome **sever erosive.**



reticulated



erosive



Erosive vulvovaginitis.

Lichen planus

Types of LP (cont'):

4- Nail Lichen planus: (Cutaneous)

- Nail involvement usually occur in **20%** and it is more common in children
 - **Dorsal Pterygium** (Very specific to LP) it happened when hyponychium attached to the Proximal nail fold.
 - **Lateral thinning.**
 - **Longitudinal ridging.**
 - **Distal splitting.**
 - Thinning of the nail.
 - 20 Nail Dystrophy when all 20 nails are destroyed. Can be caused by other diseases.



5- Lichen Planopilaris-LPP: (Follicular, scarring alopecia)

- It usually present as multiple, keratotic plugs surrounded by a narrow ill defined violaceous rim are observed primarily on the scalp around follicles, although other hair bearing areas can also be affected.
- The inflammatory process usually result in scarring alopecia when it doesn't cause scarring it's called lichen spinulosus.



Lichen planopilaris Perifollicular (Later causes scarring)

6- Graham-little-piccardi-lassueur syndrome:

- Is a Triad of:
 - a. Non-scarring alopecia of pubic and axillary hairs and disseminated spinous or acuminated follicular papules.
 - b. Typical cutaneous or mucosal LP.
 - c. Scarring alopecia of the scalp.

7- Frontal fibrosing alopecia: (it was called Postmenposal frontal fibrosing alopecia)

- It usually affect postmenopausal female. **>50 yo**
- It presents as frontal hairline scarring alopecia with **eyebrows thinning.**



Frontal fibrosing alopecia
2ed Pic: Thinning of eyebrows

8- Lichenoid drug eruption:

- It is a drug eruption that resemble Lichen planus with the following clinical differences:
 - **Morphology:** more psoriasiform/eczematous.
 - **Distribution:** start as photo-distributed then generalized.
 - **Usually no mucosal involvement and Wickham's striae.**
- It can appear anytime between weeks and years after exposure (commonly diuretics cause it).

FEATURES FOR DISTINGUISHING LICHENOID DRUG ERUPTION FROM LICHEN PLANUS		
Feature	Lichenoid drug eruption	Idiopathic lichen planus
Mean age	65 years	50 years
Location	More generalized (including the trunk) and symmetric; often spares the "classic" sites of LP	Wrists, flexor forearms, presacral area, lower legs, genitalia
Morphology	More eczematous, psoriasiform or pityriasis rosea-like	Shiny, flat-topped, polygonal, violaceous papules
Wickham striae	Uncommon	Present
Hyperpigmentation	Very common, sometimes persistent	Common
Photodistribution	Frequent*	Unusual
Mucous membranes	Usually spared	Often involved
Histology	Varying degree of eosinophilic and/or plasma cell infiltrates Deep perivascular infiltrate may be present (<50% of cases) Focal parakeratosis and focal interruption of the granular layer Cytoid bodies in cornified, granular and upper spinous layers	Eosinophils and plasma cells uncommon Dense band-like infiltrate of lymphocytes in the papillary dermis Parakeratosis uncommon Cytoid bodies in lower spinous layer

*Especially with medications such as hydrochlorothiazide.

Pathology:

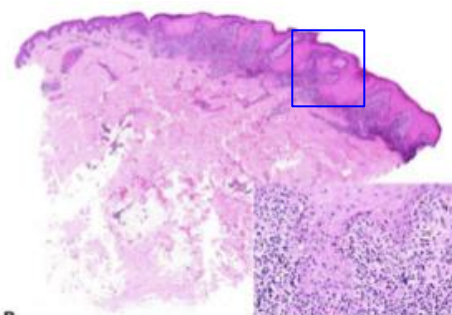
- **Classic Lichen planus pathology:**

Superficial lymphocytic infiltrate with vacuolar interface reaction at the DEJ with dyskeratotic keratinocyte (Civatte bodies) & colloid bodies which is associated with "wedge-shaped" hypergranulosis (Wickham's striae) and "saw-tooth" rete ridges.

There's parakeratosis like psoriasis but (absence of microabscess and collection of neutrophils within epidermis)

If shaggy band of fibrogen along with DEJ and colloid bodies staining with immunoglobulins at the papillary dermis

- **Lichenoid drug eruption:** The infiltrate is more deep with **eosinophils/plasma cell** with the presence of **parakeratosis (which is Not i...)**



Lichen planus

Lichen planus course:

- It follow a relatively **short course with relapse/remit nature rarely chronic** that self-limit usually within 1-2 years except for oral and follicular LP which tend to be more chronic Leave very bad pigmentation.

Treatment:

- **Focal:**
 - topical corticosteroids.
 - Intralesional corticosteroids -LPP.
- **Generalized:**
 - Systemic therapy:
 - Systemic Corticosteroids **The first line of therapy for generalized.**
 - Steroid sparing agents:
 - Systemic Retinoids e.g. **Acitretin** (avoid in female childbearing age)
 - Anti Malaria- Hydroxychloroquine- LPP.
 - Immunosuppressive therapy- MTX, Cyclosporine.
 - Phototherapy: **not commonly used**
 - NBUVB/PUVA

Pityriasis Rosea النخالة الوردية

Epidemiology :

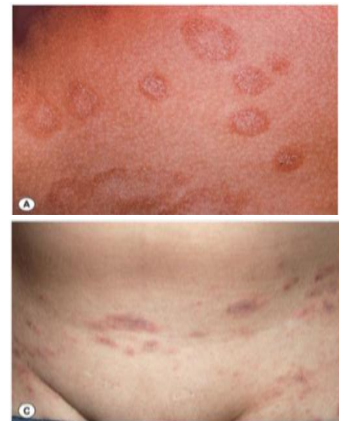
- Pityriasis Rosea is a **common acute self-limiting (Viral) exanthematous** eruption that usually affect adolescent (10-30 years) (**Presented usually with prodrome**).
- It doesn't have any gender/race predilection.
- Although, PR can be seen all year around, it is more frequent in winter, fall and spring.

Etiology :

- The etiology of PR is unknown but most experts believe that the **reactivation of HHV 6/7** play a significant role in the pathogenesis of the disease.

Typical pityriasis rosea: (Common)

- Single **well-defined oval (4cm) pink-erythematous patch (or thin plaque) with collarette scale** over the **trunk/proximal limbs (Herald patch 50%) (mother lesion) /common clinically diagnosed**
- followed **after average of 2 weeks** with similar **daughter lesions** on the **trunk/proximal limbs satellite linear papules called (christmas tree)** with whole illness ranging between **6-12 weeks**.
- **The Scale in Psoriasis is thick whereas in PR is thin.**
- 75% complain of pruritus.
- 75% complain of viral prodrome.
- 10% oral lesions: erosion/ulcer (most common), purpura and erythematous patch.



Oval pinkish collarette scales pointing inwards.

Atypical Pityriasis rosea:

- Herald Patch: **mother patch**
 - No HP.
 - Multiple HP.
 - **When we don't see clear herald patch we have to rule out secondary syphilis**
- Morphology
 - **papular** common in dark skin people and children **vesicular**.
 - Some PR have purpura or Targetoid lesion.
- Distribution
 - PR **Inversa "within skin folds"** affect axilla, groin and distal extremities.



Pityriasis rosea النخالة الوردية

Course and duration:

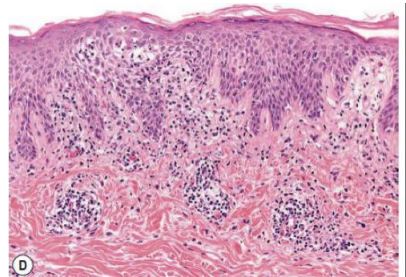
- **Persistent PR:** duration longer than 12 weeks and usually up to 6 months with aggressive course and presentation.
- **Relapsing PR:** more than estimated (~5%) but carry a mild and shorter course with few attacks over 3-5 years duration (usually due to the time the immune system take to gain full control over **HHV 6/7**)
- **Shall we look for HHV 6/7? we don't why would we? 1- it's not always there 2- it's a clinical diagnosis if in doubt do a biopsy to rule out other diseases.**

PR & Pregnancy:

- Since pregnancy is a state of altered immune response, a risk of viral reactivations and intrauterine transmission of HHV-6/7 exists.
- On the whole, the total abortion rate among women with pregnancy PR is the same as that of the general population but noteworthy, when PR develops within the 15th gestational week, the abortion rate is higher probably because the risk of intrauterine transmission of HHV-6 (or less commonly HHV-7) is increased. Doesnt affect the course of the pregnancy

Histopathology:

- **focal parakeratosis**, spongiosis and acanthosis of the epidermis with superficial perivascular lymphohistiocytic infiltrate accompanied by some extravasated RBC.



PR-like eruption:

- An eruption that resemble PR with the following differences:
 - **lacking herald patch and viral prodrome.**
 - Papular morphology.
 - Acrofacial distribution.
 - Histology: Superficial perivascular lymphocytic infiltrate with eosinophil and vacuolar interface reaction and necrotic keratinocytes within the epidermis.
 - **HHV6/7 serology negative.**

Triggers:

- **Gold can lead to psoriasis**
- **Medications:**
 - Barbiturates, methopromazine, captopril, clonidine, **gold**, metronidazole, **D-penicillamine**, isotretinoin, levamisole, Pyribenzamine, NSAID, omeprazole, **terbinafine**, ergotamine tartrate, tyrosine kinase inhibitors & **Adalimumab**.
- **Vaccination:**
 - diphtheria, smallpox, pneumococcal, hepatitis B virus, BCG and HPV.

Treatment of PR:

- Symptomatic with **topical corticosteroids** and antihistamine (if there is Pruritus).
- Antiviral treatment (Acyclovir 800mg 5 times for 10 days) indicated in the following settings: (rarely used)
 - **Persistent PR.**
 - **Relapsing PR.**
 - Severe PR at the first trimester of pregnancy.

Questions

1- Which of the following is the primary lesion for lichen planus?

- A) Papule
- B) Nodule
- C) Pustule
- D) Macule

2- Pityriasis rosea is (associated) caused by reactivation of?

- A) herpes 1
- B) herpes 2
- C) herpes 6
- D) herpes 8

3- 30 years old male presents with multiple silvery white scaly plaques on his extensors. Which of the following is a common associated manifestation?

- A) nephritis
- B) Arthritis
- C) Conjunctivitis
- D) Interstitial pneumonitis

4- A 30 y/o male presented to you with multiple well-defined flat topped violaceous polygonal papules and plaques crossed with fine white lines over the trunk and extremities. What is your diagnosis?

- A) Psoriasis
- B) Lichen planus
- C) Pityriasis rosea
- D) Atopic dermatitis

5- What's the most common type of psoriasis?

- A) Plaque psoriasis
- B) Erythrodermic Psoriasis
- C) Pustular psoriasis
- D) Plantopalmar Psoriasis

Answers:

1: A, 2: C, 3: B, 4: B, 5: A