Lecture (2)

Psoriasis and other papulosquamous disorders

(Part 1)

We believe this lecture will cover everything you need to know about Psoriasis, but due to the unavailability of doctor's slides and objectives you may want to read more about the subject we recommend either one of the Textbook References:
1-Fitzpatrick Color Atlas and Synopsis of Clinical Dermatology (Vienna) By Klauss Wolff and Richard Allen Johnson. (6th Edition).
2-Dermatology in Clinical Practice by Zohra Zaidi and Sean W Lanigan.

best of luck!

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Color index: important, doctor's own words, extra.

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Papulosquamous diseases

So, in order to understand the meaning of **Papulosquamous** let's divide the word into A) Papulo: papule & B) Squamous: refers to scaling that represents thick stratum corneum and thus implies an abnormal keratinization process.
So, **Papulosquamous** means papules + scales or scaly papules.

presentation: characterized by 1) sharp demarcations, 2) red to violaceous papules and 3) plaques that result from thickening of the epidermis or underlying dermal inflammation.

Papulosquamous diseases is divided into:

- A) Psoriasis.
- B) Pityriasis rosea.[1]
- C) Lichen planus.[1]
- Seborrheic dermatitis.
- Pityriasis rubra pilaris.
- Secondary syphilis.
- Miscellaneous mycosis fungoides, discoid lupus erythematosus, ichthyoses.

A) Psoriasis: is characterized by abnormally excessive and rapid growth of the epidermal layer of the skin (Abnormal production of keratinocytes).

- It's common & non-infectious disease.
- Genetically determine.
- Usually affects skin & joints.
- autoimmune skin disease.
- Idiopathic cause
- Chronic & Associated with the metabolic syndrome.

Classical presentation: Well defined regular brownish to reddish scaly papule or plaques.

➔ Please, watch this great video about psoriasis: https://youtu.be/O3sauC5xGFk

Types of Psoriasis: (Doctor)

1-Plaque: "Most common form" Red lesions covered by a silvery white scale.
2-Guttate: Appears as small red spots on the skin.
3-Erythrodermic: Intense redness over large areas. (serious condition)
4-Pustular: Sterile small pustules, surrounded by red skin. (very serious condition); it may lead to septic shock in severe cases.
5-Inverse: Occurs in armpits, groin and skin folds. تجي بأماكن غير العادة
6-Psoriatic Arthritis; a form of arthritis that affects some people who have psoriasis.
7-Psoriatic nail: Oil drop or salmon patch/nail bed pitting, onycholysis.

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[1]covered in part 2

Histology:

- Parakeratosis (nuclei retained in the horny layer) → Leukonychia
- Irregular thickening of the epidermis, but thinning over dermal papillae.
- Epidermal polymorphonuclear leucocyte infiltrates (munro abscesses)
- Dilated capillary loops in the dermal papillae.
- T-lymph infiltrate in the upper dermis.

Doctor also mentioned:

- In the scalp psoriasis is usually on the frontal, occipital & parietal area.
- It looks like dandruff[2], so patient usually complain of dandruff.
- Palmo-planter type: it may present with just psoriasis with no pustule, remember when you examine the palm check the soles as well.
- Pustular psoriasis "you have to be very careful & very near when dealing with it because it is a serious condition, be afraid of septicemia".
- End stage of nail change in psoriasis → dystrophic nail. (Also, nail pitting)
- In onycholysis[3] → air will go under the nail & gives the change of color.
- We usually don't give systemic steroids in psoriasis because when stopped it will cause severe rebound.
- Nowadays psoriasis is not just a dermatological disease it's related to many internal organs, especially to the heart, latest studies have showed that there is a relation between psoriasis and myocardial infarction (psoriasis patients are 7 times more likely to have MI), and a lot of other disease related to :Renal , GI, and Rheumatology.
- Depression is common with psoriasis patients.
- The most common disease related to psychology in dermatology is psoriasis → lead to suicide in sever case.
- Obesity worsens the psoriasis.
- الرياضة جدًا مفيدة لمرضى الصدفية

[2] قشرة الرأس
[3] loosening or separation of a fingernail or toenail from its nail bed.

- As we said psoriasis patients have 7 times more likely to have MI so you have to keep an eye on the patient's blood pressure.
- Auspitz sign indicate Psoriasis; appearance of punctate bleeding spots when psoriasis scales are scraped off. (herald patch is a sign for pityriasis rosea)[4]
- Most common affected areas are the elbows & knees but it can be everywhere: scalp, genitalia, hand and feet , around the eyes and ears, or even nails.

Pathogenesis:

Although the cause is unknown, researchers have suggested that many factors may play a role, for instance:

❏ *Genetic factors:*

There are two inheritance modes:

1-type I psoriasis (Early onset): more likely to be familial, have a severe clinical course and is associated with HLA-Cw6, −B13 and −B57.

2-type II (Late onset): ages 50 to 60 and is correlated with HLA-Cw2 and −B27.

❏ *Environmental:*

- Infection (streptococcal infection).
- Physical agents (eg,stress, alcoholism, smoking).
- Koebner phenomenon[5].

❏ *Drugs* (lithium, antimalarials, NSAIDs, beta-blockers).

★ Beta blockers and lithium > most common drugs aggravating psoriasis.

❏ *Epidermal cell kinetics:*

- The growth fraction of basal cells is increased to almost 100% compared with only 30% in a normal skin. (increase amount of production).
- The epidermal turnover time is shortened to less than 10 days compared with 30 to 60 days in normal skin. (fast production).

❏ *Inflammatory factors:*

- Increase level of TNF + TNF receptors are up-regulated.
- Increase level of interferon gamma.
- Increase level of interleukin 2, 12, 23 and 17.

❏ *Immunological factors:*

Psoriasis is fundamentally an inflammatory skin condition with reactive abnormal epidermal differentiation and hyperproliferation.

The inflammatory mechanisms is mostly initiated by: T cells in the dermis.

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[4] Not mentioned by doctor in this lecture, but will be mentioned in other Papulosquamous.

[5] Remember in introductory lecture: trauma to the skin reproduce certain diseases, which also includes Lichen planus.

Treatment:

1. *Topical: "1st line"*

- Emollients
- Steroids, coal tar (not used anymore), calcitonin inhibitors, & vit. D_3 analogues.

2. *Phototherapy "2nd line"* (causes death of T cells in skin):

- UVB, UVA with psoralen, & UVC.

★ very effective and very safe. الدكتور حرص اكثر من مره انه علاج مهم

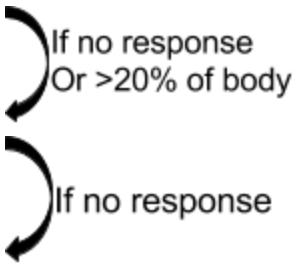
3. *Systemic: (use in sever cases)*

- Methotrexate (indicated for Psoriatic Arthritis)
    - Serious side effect: could cause bone marrow suppression, liver toxicity → cirrhosis.
- Cyclosporine: 4 weeks - up to 8 only
    - used for emergencies only, as it may lead to renal problem.

★ we use systemic steroids on special cases like a pregnant women, or a man/women about to get married. (Limited indication).

4. *Biological:*

- Janus kinase (JAK) inhibitors: Tofacitinib and ruxolitinib.
- Phosphodiesterase 4.



- In emergency erythrodermic psoriasis:

First you have to do the ABC and be sure that the patient is hemodynamically stable because all the blood is in the patient skin & in this case the skin loses the function of regulating the body temperature.

- Psoriasis can be managed as eczema, initially by moisturizers, topical ointment with corticosteroids. But when the disease get more invasive the treatment will be different.
- Use topical treatment on mild lesion or localized.
- Topical corticosteroids should not given on light skin or on any area that has high blood supply.

There is a known treatment approach for psoriasis known as the "1-2-3" approach, where:

- Step 1 includes topical treatment – patients apply medicines to their skin.
- Step 2 includes phototherapy – patients use exposure to light.
- Step 3 includes systemic treatment - patients take medication.

Questions:

1. Bleedings spots seen on removal of scales in psoriasis is called as
   A. Auspitz sign.
   B. Punctuate hemorrhage.
   C. Nikolsky sign.
   D. Darier's sign.

A

2. A 30 years old male presented with silvery scales on elbow and knee, that bleed on removal. The probable diagnosis is
   A. Plaque.
   B. Guttate.
   C. Erythrodermic.
   D. Pustular.

A

3. Psoriasis is exacerbated by

   A. Benzodiazepine.
   B. Alpha blockers.
   C. Antimalarials.
   D. All of the above.

C

Best of luck! You can ace this!