A Case Report on Psoriasis

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Abstract: Psoriasis is a disease characterized by the presence of papules and plaques over the surface of skin with variable morphology, distribution and severity. The lesions of psoriasis are distinct from these other entities and are classically very well circumscribed, circular, red papules or plaques with a grey or silvery-white, dry scale. In addition, the lesions are typically distributed symmetrically on the scalp, elbows, knees, lumbosacral area, and in the body folds. The oral manifestations of psoriasis may involve the oral mucosa or the tongue. The dorsal surface of the tongue shows characteristic red patches surrounded with a yellow white border. The relationship between eye lesions and psoriasis are the current findings in the literature. The ocular complications along with the several extracutaneous manifestations are common complications seen in psoriasis. Thus, a complete understanding of ophthalmic involvement is important to the comprehensive care of patients with psoriasis. Almost any part of the body can be affected in psoriasis, but the ophthalmic complications of psoriasis usually remain clinically subtle. This review highlights the various manifestations of psoriasis with their clinical sign and symptoms.

Keywords: Psoriasis, Skin disease, Case report, Patient, Medication, Treatment.

INTRODUCTION

Psoriasis is regarded as an autoimmune disease in which genetic and environmental factors have a significant role. The name of the disease is derived from Greek word "psora'' which means "itch". Psoriasis is a non-contagious, dry, inflammatory and ugly skin disorder, which can involve entire system of person. It is mostly inherited and mainly characterized by sharply marginated scaly, erythematous plaques that develop in a relatively symmetrical distribution. The most commonly affected sites are the scalp, tips of fingers and toes, palms, soles, umbilicus, gluteus, under the breasts and genitals, elbows, knees, shins and sacrum. This disease is chronic in nature with a tendency to relapse. In this disease, the skin keeps scaling as flakes called psoriatic plaques due to rapid and excessive multiplication of epidermis cells which look like fishy skin & finally peels off as exfoliation. The silvery-white plaques are caused by accelerated regeneration and accumulation of skin on sites of predilection due to rapid destruction process. Plaques may range in size from a few millimeters to a large part of the trunk or limb. Plaques frequently appear on skin of the elbows and knees, but can affect any area including the scalp and genitals. Fingernails and toenails are frequently affected (psoriatic nail dystrophy) and can be seen as an isolated finding. Psoriasis can also cause inflammation of the joints, which is known as psoriatic arthritis.

ETIOLOGY

Exact etiology of psoriasis has yet to be discovered, the immune system and genetics are known to play major roles in its pathogenesis and manifestation.

1. Trauma: Psoriasis at the site of injury is well known and the phenomenon is termed as Koebner phenomenon. A wide range of injurious local stimuli, including physical, chemical, electrical, surgical, infective and inflammatory insults have been recognized to elicit psoriatic lesion.
2. Environmental factors: several studies validated that the interaction between genes and environment is important in manifestation of psoriasis. Many environmental factors have linked to psoriasis, and have been implicated in the manifestation of disease and exacerbation of pre-existing disease.
3. Infection: Acute guttate psoriasis is strongly

associated with preceding or concurrent streptococcal infection, particularly of the throat. There is evidence that streptococcal infection may be important in chronic plaque psoriasis, and treatment with rifampicin and penicillin may lead to clearance of skin lesions.

4. Drugs: There are many drugs reported to be responsible for the onset or exacerbation of psoriasis. Chief amongst these are lithium salts, antimalarials, beta blockers, ACE inhibitors, NSAIDS, and the withdrawal of corticosteroids.
   Some authors had suggested that NSAIDS and beta blockers have little adverse effect but the adverse effect of lithium salts and antimalarials may be severe.
5. Metabolic factors: The early onset of psoriasis in the women, with a peak around puberty, changes during pregnancy and provocation of psoriasis by high dose estrogen therapy potentially indicate a role for hormonal factors in the disease.
   A questionnaire study has provided data from 65 females who had one or more pregnancies after diagnosis was made. Psoriasis was improved approximately in 40% of the pregnancies, and worsened in 14%. Hypocalcemia has been reported to occur in severe forms of psoriasis, particularly generalized pustular psoriasis.
6. Psychogenic factors: Considerable clinical evidence exists for the role of psychogenic factors in onset and exacerbation of disease. Seville reported consistent links between major stressful life events and disease manifestation. Gupta reported more exacerbations and worsening of disease related with stress reactivity. Some other studies also established the role of psychogenic factors in the initiation or exacerbation of psoriasis.
7. Alcohol and smoking: It has long been suspected that both cigarettes and alcohol have a detrimental effect on psoriasis. When controlled for confounding variables, studies suggested that alcohol may exacerbate pre-existing disease but does not appear to induce psoriasis. This effect seems greater in men than women. Heavy drinkers tend to have more extensive and inflamed disease. Increased alcohol consumption is a recognized stress response. Excess drinking is undoubtedly also a consequence of disease and leads to treatment resistance and reduces therapeutic compliance.
8. Weather: Winter tends to be the most challenging season for people living with psoriasis. Numerous studies indicate cold weather is a common trigger for many people and that hot and sunny climates appear to clear the skin. Cold winter weather is dry, and indoor heat robs the skin of needed moisture. This usually worsens psoriasis. Psoriasis can become even more severe when the stress of the holidays and winter illnesses combine to compromise immune system. While hot and sunny may help clear psoriasis, air-conditioning can dry out the skin and aggravate psoriasis.

EPIDEMIOLOGY

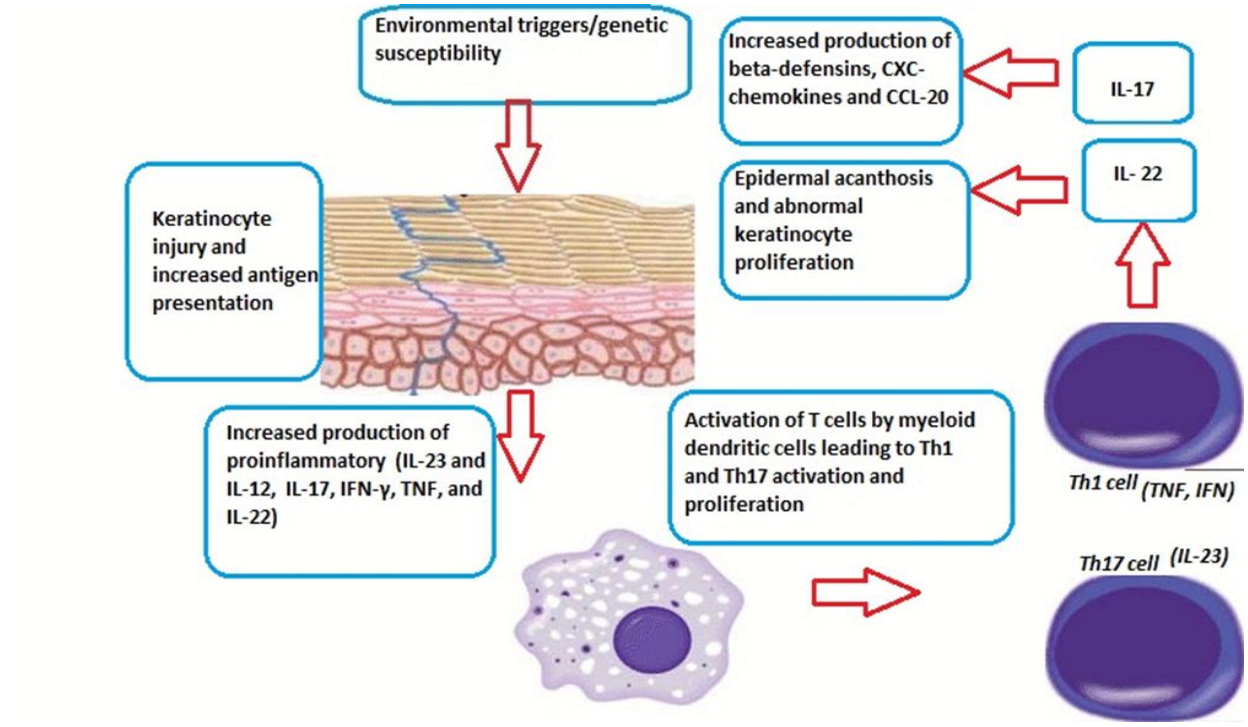
The Epidemiology of Psoriasis involves studying its occurrence, distribution and prevalence in population:

Psoriasis affects approximately 60 million people worldwide. This is more common in high- income areas and places with an aging population. According to Keegan and Bagel, 1-3% of people worldwide have psoriasis. Although psoriasis can manifest at any age, it is traditionally believed to have a bimodal distribution, peaking at ages 30 to 40 and then again at 50 to 60. Based on the bimodal distribution age of onset and hereditary, two types of psoriasis have been discussed.

Type I psoriasis "accounts for approximately 65% of the population with psoriasis and is associated with onset before age 40" and type II psoriasis "accounting the remainder of the population with psoriasis" [16]. Early-onset disease or type I psoriasis patients frequently have more relatives who are afflicted by psoriasis than patients with late-onset disease or type II psoriasis.

PATHOPHYSIOLOGY

The Pathophysiology of Psoriasis is:



Pathogenesis of psoriasis

SIGNS AND SYMPTOMS

The signs and symptoms of psoriasis can vary, depending on the type of psoriasis you have.

- Common psoriasis symptoms:

Skin rashes or patches. These may start as small bumps and turn into larger patches that are red, dark pink, or purple and covered in loose, silver, white, or gray-colored scales. These scaly areas are called plaques. In severe cases, the plaques grow and merge into one another, covering large areas. You are most likely to find them on your scalp, elbows, knees, or lower back.

Itchy, painful skin. The inflamed skin may crack or bleed, especially if you scratch it. That can lead to infection and, in severe cases, cause severe pain, swelling, and fever.

Problems with your fingernails and toenails. They might change color and get pits. The nails may also begin to crumble or detach from the nail bed. About half of people with plaque psoriasis have nail trouble.

Psoriasis also can come with psoriatic arthritis, which causes achy, swollen joints. Between 10% and 30% of people with psoriasis also have this painful joint condition.

- Less common psoriasis symptoms

Small red dots. You're most likely to see these on the arms, legs, or torso, in children or young adults with a type called guttate psoriasis. It's commonly triggered by strep throat.

Pus-filled bumps. A type called pustular psoriasis can cause these bumps on just your hands and feet or, less commonly, all over your body. It's often caused by medications, infections, stress, or chemical exposure.

Smooth red patches in skin folds. These patches in the groin, armpits, or beneath the breasts could be a type called inverse psoriasis.

Red scaly skin over most of the body. This could be a sign of a rare, severe form called erythrodermic psoriasis, triggered by sunburn or medication.

DIAGNOSIS

For diagnosis of psoriasis, your doctor usually examines your skin, scalp, and nails for signs of the condition. They may also ask questions about your health and medical and family history, such as whether you:

- Experience symptoms such as itchy or burning skin.
- Had a recent illness or experienced severe stress.
- Take certain medicines.
- Have relatives with the disease.
- Experience joint tenderness.

This information will help the doctor figure out if you have psoriasis, and if so, identify which type. To rule out other skin conditions that look like psoriasis, your doctor may take a small skin sample to examine under a microscope.

TREATMENT

Several treatment options can relieve psoriasis symptoms.

Common Psoriasis treatments include:

Steroid creams, Moisturizers for dry skin, Medication to slow skin cell production (anthralin), Medicated lotions or shampoos, Vitamin D3,ointment, Vitamin A or retinoid creams.

Creams or ointments may be enough to improve the rash in small areas of your skin. If your rash affects larger areas, or if you also have joint pain, you'll need other treatments. Joint pain may be a sign that you have arthritis.

What if common psoriasis treatments don't work?

If your symptoms of psoriasis don't improve after treatment, or if you have large areas of involvement (10% of your skin or more), your healthcare provider may recommend the following treatments:

1. Light therapy: LED lights at specific wavelengths can decrease skin inflammation and help slow your skin cell production.
2. *PUVA*: This treatment combines a medication called psoralen with exposure to a special form of ultraviolet light.
3. *Retinoids*: These vitamin A-related drugs can help your psoriasis symptoms but may cause side effects, including birth defects.
4. Immune therapies: Newer immune therapy medications (biologics and small molecule inhibitors) work by blocking your body's immune system so it can't cause an autoimmune reaction.
5. Methotrexate*:* Providers recommend this medication for severe cases of psoriasis. It may cause liver disease. If you take it, your provider will monitor your progress with blood tests. You may need periodic liver biopsies to check your liver health.
6. *Cyclosporine*: This medicine can help severe psoriasis but it may cause high blood pressure and kidney damage.

CASE STUDY

A 52-years old male patient visited the hospital and went for department of Dermatology. The patient reported experiencing skin irritation, redness and itching on his body for two weeks, getting worse day by day. There is no significant past medical history of the patient. He had no drug allergies and wasn't regularly using any medication. He had a habit of alcohol consumption. There is no family history present about this disease. Patient was doing a small business and mostly expose to the sunlight. Patient has no pets or considerable animal contact and has not been bitten by an insect.

Investigation

Upon examination, the dermatologist noted a rash on the patient body, along with dry and flaky skin. To further investigate the cause of the patient symptoms, the dermatologist ordered blood tests, including a Complete Blood Count [CBC], Liver Function Test and Serum Creatinine.

Table 1. Complete Blood Picture test reports

INVESTIGATION	LAB VALUE	NORMAL VALUE
Hemoglobin	13.6 gm%	13.5-18.0gms%
Total R.B.C Count	4.5 Mill/cumm	4.5-6.0Mill/Cumm
P.C.V	40.8 Vol%	40-54%

W.B.C [Total]	11,000 /Cumm	4000-11000/Cumm
Platelet Count	2,62,000 Lakhs/cumm	1.5-4.5 Lakhs/Cumm
Neutrophils	50%	40-70%
Lymphocytes	40%	20-40%
Eosinophils	04%	01-06%
Monocytes	06%	03-08%
Basophils	00%	00-01%

P.C.V- Packed Cell Volume.

Table 2. Liver Function Test reports

TEST NAME	LAB VALUE	NORMAL VALUE
Bilirubin [Total]	0.6 mg/dL	0.1-1.2 mg/dL
Bilirubin [Direct]	0.1 mg/dL	0.0-0.3 mg/dL
Bilirubin [Indirect]	0.5 mg/dL	0.2-1.0 mg/dL
AST/SGOT	25 U/L	15-37 U/L
ALT/SGPT	32 U/L	0-55 U/L
GGTP	71 U/L	30-120 U/L
ALP	114 U/L	15-85 U/L
Protein-Total	7.1 g/dL	6.4-8.2 g/dL
Albumin	4.0 g/dL	3.4-5.0 g/dL
Globulin	3.1 g/dL	2.0-4.2 g/dL
SGOT/SGPT Ratio	0.78	

AST/SGOT -Aspartate Aminotransferase/Serum Glutamic-Oxaloacetic Transaminase,

ALT/SGPT- Alanine Aminotransferase /Serum glutamic pyruvic transaminase, GGTP - Gamma-Glutamyl Transpeptidase, ALP-Alkaline Phosphatase.

Table 3. Serum Creatinine report

PARAMETER	LAB VALUE	NORMAL VALUE
Serum Creatinine	1.0 mg/dL	0.7-1.4 mg/dL

Treatment Plan

Table 4. Recommended medication chart based on disease status

S. No	BRAND NAME	GENERIC NAME	DOSE	FREQUENCY	ROA
1	Logisoft Lotion	Emollient		Twice daily	Topical
2	Lozivate S Ointment	Topical Corticosteroids, Keratolytic agent.		Apply at night	Topical
3	Atarax	Hydroxyzine Hydrochloride	25mg	BD	Oral
4	Itracap	Itraconazole	100mg	0-0-1	Oral
5	Cetirizine	Loratadine	10mg	1-0-1	Oral
6	Wysolone	Prednisolone	5mg	0-0-1	Oral

Logisoft Lotion, Lozivate-S Ointment, Atarax 25mg were the first medication he was given. Symptoms of itching were reduced when this medication are administered. The patient revisited continuously to the hospital with symptoms of poor sleep quality, redness and pain. So, doctor prescribed some other medications which are Itracap, Cetirizine, Wysolone. The treatment plan medication is continuously taken by the patient and revisited the doctor is continued for total cure of the patient.

CONCLUSION

Clinical signs of Psoriasis may vary and are similar to those of others. Once the diagnosis has been made, the course of therapy should be straight forward and

uncomplicated to prevent any further issues. This case emphasizes the needs for ongoing monitoring and adjustment to treatment plan to optimize patient outcomes. The patient was mostly recovered but mild redness was present on the body. For further cure of the redness dermatologist prescribed continuous use of logisoft S ointment until issue is solved.

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