

Psoriasis case study



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Case Study

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Case Study

P. D. a twenty-three-year-old female presents with symptoms of psoriasis. She has several thick scaly, well defined, erythematous plaques, which are silvery in color. The patient reports that she has just returned from a twelve-day trip to southern Louisiana to work the ecosystem as part of her education as an environmental engineer. During the trip, she had significant solar exposure, although she wore sunscreen. The expanded and prominent plaques cover her elbows and thighs, and there is a patch on her scalp. Her lesions cover about fifteen percent of her body. She occasionally applies moisturizing lotion or witch hazel if it becomes too irritating. All other body systems are normal.

Patient states “ I have always had some rashes, although usually not this bad.”

Past Medical History

“ Some rashes,” otherwise non-contributory

Social History

Recent trip to southern Louisiana for ecosystem work related to studies as an environmental engineer.

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Physical Examination

Several thick scaly, well define, erythematous plaques, silver in color.

Expanded plaque and prominent plaques cover elbows and thighs, with an area on the scalp. Plaque coverage is fifteen percent of the body.

Significant sun exposure

All other body systems are within normal limits.

Reviewing the symptoms, the primary diagnosis is plaque psoriasis. Psoriasis is a chronic inflammatory disease of the skin in which the production of epidermal cells occurs at a rate that is faster than normal. The cells in the basal layer of the skin divide too quickly, and the newly formed cells move rapidly to the skin surface and become evident as profuse scales or plaques of epidermal tissue. The psoriatic epidermal cell may travel from the basal cell layer to the stratum corneum and be cast off in three to four days, which is in sharp contrast to the normal twenty-six to twenty-eight days. As a result of the increased number of basal cells and rapid cell passage, the normal events of cell maturation and growth cannot take place. This abnormal process does not allow the formation of the protective layers of the skin (PubMed Health, 2012).

Psoriasis, one of the most common skin diseases, affects approximately two percent of the population. There appears to be a hereditary defect that causes overpopulation of keratin. The primary defect is unknown. A combination of specific genetic makeup and environmental stimuli may trigger the onset of the disease. There is evidence that the cell proliferation

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is mediated by the immune system. Periods of emotional stress and anxiety aggravate the condition, and trauma, infections, and seasonal and hormonal changes are trigger factors. The onset may occur at any age, but is most common between the ages of ten and thirty-five years. Psoriasis has a tendency to improve and then recur throughout life (PubMed Health, 2012).

The clinical manifestation

The lesions appear as red, raised patches of skin covered with silvery scales. The scaly patches are formed by the buildup of living and dead skin that results from the vast increase in the rate of skin-cell growth and turnover. If the scales are scraped away, the dark red base of the lesion is exposed, producing multiple bleeding points. These patches are not moist and may or may not itch. The lesions may remain small, giving rise to the term “ guttate psoriasis.” Usually, the lesions enlarge slowly, but after many months they coalesce, forming extensive irregular shaped patches (PubMed Health, 2012). Psoriasis may range from a cosmetic source of annoyance to a physically disabling and disfiguring affliction. Particular sites of the body tend to be affected by this ailment; they include the scalp, the area over the elbows and knees, the lower part of the back, and the genitalia. Psoriasis also appears on the extensor surfaces of the arms and legs, on the scalp and ears, and over the sacrum and intergluteal fold. Bilateral symmetry is a feature of Psoriasis (Brunton, Chabner, & Knollman, 2011). The disease may be associated with arthritis of multiple joints, causing crippling disability. The relationship between arthritis and psoriasis is not understood. Another complication is an exfoliative psoritic state in which the disease progresses to involve the total body surface (Brunton, Chabner, & Knollman, 2011).

Management

The goals of management are to reduce the rapid turnover of the epidermis and to promote resolution of the psoriatic lesions. Thus, the goal is limited to control of the problem, because there is no cure (Brunton, Chabner, & Knollman, 2011).

The therapeutic approach should be one that the patient understands; it should be cosmetically acceptable and not too disruptive of life-style. It will involve a commitment of time and effort by the patient.

First, any precipitating or aggravating factors are removed. Then as assessment is made of life-style, since psoriasis is significantly affected by stress. The patient must also be advised that treatment of severe psoriasis can be time-consuming, expensive, and esthetically unappealing at times. Treatment will begin with Vectical ointment (calcitriol) 3mcg/g, topical use only. Apply twice daily, once in the morning and once in the evening, the maximum weekly dose should not exceed 200 gram (National Institute of Health, 2012). Treatment will extend to eight weeks, with follow up in office at that time. Each gram contains 3 micrograms of calcitriol. Vectical should not be applied to the face, eyes, or lips. It should be used with caution in patients receiving medications known to increase calcium serum levels, such as calcium supplements, vitamin D supplements, and thiazide diuretics. Vectical may cause sunburn more easily, avoid the sun, sunlamps, or tanning beds while using Vectical ointment. Use a sunscreen or wear protective clothing when having to be outside for more than a short time (National Institute of Health, 2012).

Vectical ointment is indicated for the topical treatment of mild to moderate plaque psoriasis in adults eighteen years and older. Calcitriol (Vectical) contains 1, 25-dihydroxycholecalciferol, the hormone active form of vitamin D3. Calcitriol 3-mcg/g ointment is similar in efficacy to calcipotriene 0.005-% ointment for the treatment of plaque type psoriasis on the body and is better tolerated in intertriginous and sensitive areas of the skin (Katzung, Mastes, & Trevor, 2012). Vectical contains calcitriol, which studies have shown to be fetotoxic, and should be used in pregnancy only if the potential benefits justify the potential risk to the fetus. It is not known if calcitriol is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Vectical ointment is used by nursing women. If the patient thinks she may be pregnant, they will need to discuss the benefits and risks of using Vectical ointment while pregnant (Katzung, Mastes, & Trevor, 2012).

Patient Education

Use only as directed, for external use only. Vectical is to be applied only to areas of skin affected by psoriasis. Vectical should be gently rubbed into the skin so that no medication remains visible. As you may sunburn more easily, avoid the sun, sunlamps, or suntan beds/booths while using Vectical ointment. Use a sunscreen with an SPF of 30 or greater; wear protective clothing when you must be outside for more than a short time (Brunton, Chabner, & Knollman, 2011).

All medications may cause side effects, but many have no, or minor, side effects. Minor skin discomfort at the application site is the most common side

effect of Vectical ointment. Notify the medical provider if these side effects occur; rash, hives, itching, difficulty breathing, chest tightness, swelling of the face, mouth or lips, new or worsening skin irritation (blistering, flushing, burning, severe discomfort, or redness), symptoms of hypercalcemia (weakness, nausea, confusion, constipation, excessive thirst, fast, slow or irregular heartbeat) (National Institute of Health, 2012).

Treatment Plan

Vectical (calcitriol) 3mcg/g, 100 G tube; twice daily.

Follow up appointment in eight weeks.

Laboratory testing to include calcium serum levels and hCG testing now and at followup visit. Additional laboratory testing to include skin biopsy for fungal infection. Patient education on use and precautions of medications, and supplements. Referral to psoriasis support group for emotional support and education.

Differential Diagnosis

Review of symptoms and history of working in the environment leads to questioning if the patient presentation is a case of Tine Corporis and Tina Capitis. As the patient was in an environmental area that is subject to large fungal growth and exposure to a wet climate increases the risks for fungal infestation, this is the differential diagnosis (Brunton, Chabner, & Knollman, 2011).

Tinea capitis is a contagious fungal infection of the hair shafts. *Microsporum* and *Trichophyton* species are dermatophytes that infect hair. Clinically, one or several round patches of redness and scaling are present. *Tinea Corporis* or *Tinea circinata* begins as an erythematous macule advancing to rings of vesicles with central clearing. The lesions appear in clusters, usually on exposed areas of the body. These may extend to the scalp, hair, or nails. As a rule, there is an elevated border consisting of small papules or vesicles. Coalescence of individual rings may result in large patches with bizarre scalloped borders. Use of a woods lamp will help in the diagnosis. The fungal infection will glow under the light. Skin biopsy will confirm the presence of fungal infestation (Katzung, Mastes, & Trevor, 2012).

References

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