Teen with a diffuse erythematous, pruritic eruption

Was there a connection between the papules and plaques on the patient's face, trunk, and legs and the sore throat she'd had 2 weeks earlier?

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AN 18-YEAR-OLD CAUCASIAN FEMALE sought care at our dermatology clinic for a progressive, erythematous eruption on her face, neck, trunk, and extremities (**FIGURES 1A AND 1B**). She noted that the eruption had developed suddenly and that it was itchy.

The patient had no significant past medical history and denied being sexually active. The only medication she was taking was mestranol/norethisterone.

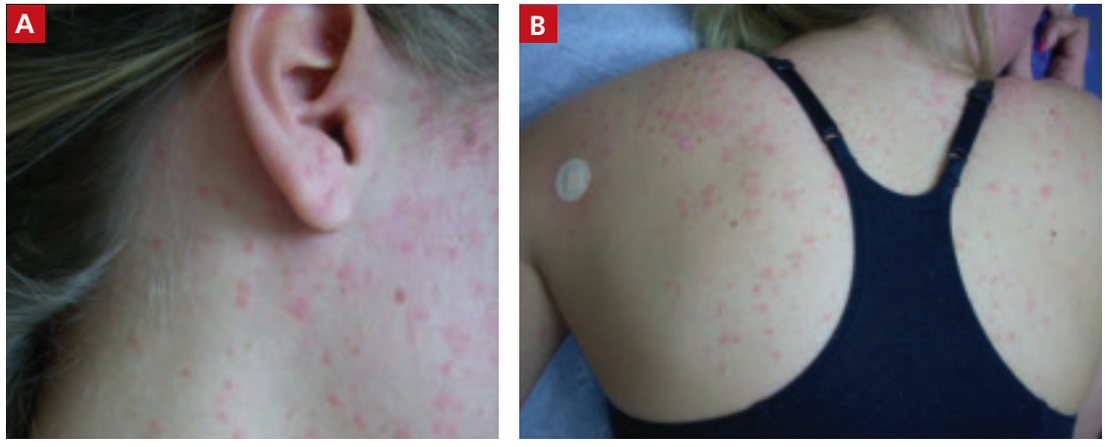
The patient denied any new exposures to medications, detergents, or foods. Upon questioning, she did note that about 1 to 2 weeks prior to the skin eruption, she had a mild sore throat and cough. However, her upper respiratory symptoms had resolved by the time she arrived at the clinic.

On physical exam, the patient had multiple erythematous papules and plaques with a fine scale over her face, neck, trunk, and lower legs (**FIGURE 2**). There were areas of confluence on her face and neck. Her palms, soles, nails, and intertriginous areas were spared.

The patient's mucous membranes were moist and there was no erythema or tonsillar exudate in her pharynx. A complete blood count, basic metabolic panel, and urinalysis were all within normal limits; a rapid plasma reagin (RPR) was nonreactive.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE 1
Papules and plaques with fine scale



PHOTOS COURTESY OF: DAVID A. BOYD, MD

This 18-year-old patient had multiple, erythematous papules and plaques with a fine scale over her face, neck, trunk, and lower legs. We performed a punch biopsy on her left posterior shoulder.

Diagnosis: Guttate psoriasis

We diagnosed guttate psoriasis in this patient based on her history and physical exam, a throat culture that was positive for group A beta-hemolytic streptococci, and blood work that showed an elevated antistreptolysin O titer. Further confirmation was obtained via punch biopsy.

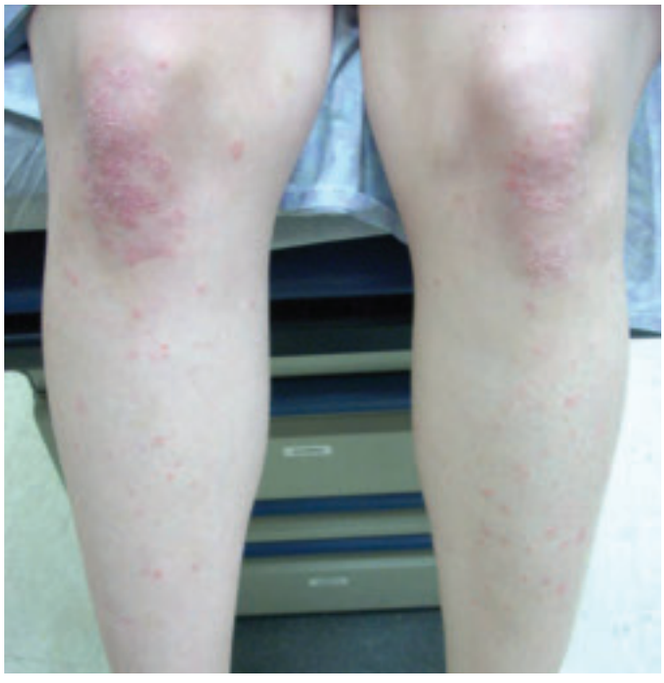
Guttate psoriasis is a fairly uncommon form of psoriasis, affecting approximately 2% of patients with psoriasis.[1] It is characterized by the abrupt onset of pruritic, salmon-pink 1- to 10-mm drop-like lesions with fine scale that may spread to the face, but spare the palms and soles. It's uncommon for this subtype of psoriasis to involve the nails.

Guttate psoriasis affects individuals younger than 30 years of age; there appears to be no gender predilection.[2] The rash usually appears 2 to 3 weeks after an upper respiratory group A beta-hemolytic streptococci infection. Although less common, there have also been reports of guttate psoriasis associated with perianal streptococcal disease.[2]

While the pathophysiology is unclear, recent evidence suggests that a genetic autoimmune-mediated reaction to a recent streptococcal infection in immunologically susceptible hosts is at work. It's thought that T-cell stimulation from a streptococcal superantigen is responsible for the acute cutaneous eruption. Various human leukocyte antigens, including HLA-Bw17, HLA-B13, and HLA-Cw6, have been identified and appear to confer a genetic predisposition to the development of guttate psoriasis.[3]

FIGURE 2

Papules and plaques on lower legs



Differential includes secondary syphilis

The differential diagnosis of guttate psoriasis includes lichen planus, pityriasis rosea, and secondary syphilis.

Lichen planus is characterized by pruritic, planar, polyangular purple papules with a reticular pattern of criss-crossed whitish lines called "Wickham's striae," which are areas of epidermal thickening.[1]

Pityriasis rosea typically presents in a "Christmas-tree" distribution in which the long axis of these oval plaques are oriented along skin lines. Also, the lesions have a distinctive collarette scale, appearing as a fine, wrinkled tissue-like scale surrounding the plaque borders.

Secondary syphilis has numerous signs and symptoms, including rash. In this case, we ruled it out because our patient had no history of sexual contacts and a negative RPR.

Testing confirms suspicions, identifies organism

The diagnosis of guttate psoriasis is established from clinical presentation. While there is no laboratory test specific for diagnosis, as many as 80% of patients will have clinical or laboratory evidence suggestive of a streptococcal infection—specifically tonsillopharyngitis.[4] Utilize bacteriologic throat or perianal cultures to isolate the organism. Levels of antibodies to streptolysin O, hyaluronidase, and deoxyribonuclease B may be elevated.[4]

Urinalysis can be used to rule out associated streptococcal complications, such as poststreptococcal glomerulonephritis. Further serologic evaluation may also include RPR testing to exclude secondary syphilis.

Biopsy is rarely needed to establish the diagnosis, but may be used for confirmation of complicated presentations or to rule out

other concerning diagnoses. Histologic findings demonstrate epidermal hyperplasia with small foci of parakeratosis and dermal layer capillary dilation and edema. Infiltrating lymphocytes, macrophages, and polymorphonuclear leukocytes may be found at all dermal levels.[5]

Symptoms dictate treatment strategies

Guttate psoriasis is usually self-limiting and resolves within a few weeks to months. One small study, however, suggests that 33% of patients will eventually develop chronic plaque disease.[6] A systematic review of treatments for guttate psoriasis failed to show firm evidence in favor of any specific treatment.[7] Treatment strategies are thus based on symptomatology and may include emollients or, less commonly, low-potency topical corticosteroids.

Phototherapy, via direct sunlight exposure or by a short course of UV-B phototherapy, has been used to help clear lesions, but care must be taken to avoid burns, which can exacerbate the eruption. More resistant cases may benefit from oral psoralen plus exposure to ultraviolet A radiation.[7]

Due to the clear association between guttate psoriasis and streptococcal disease, appropriate testing should be done and antistreptococcal antibiotics initiated. While erythromycin and penicillin VK have been used in the past as first-line agents (with the addition of rifampin usually reserved for more resistant cases or chronic carrier states), a small case-controlled study failed to find statistically significant improvement with a course of penicillin or erythromycin.[8] For patients with recurrent or chronic guttate psoriasis, tonsillectomy for poststreptococcal tonsillitis may be offered, although a systematic review failed to show a benefit.[9]

A chronic problem for our patient

We initially treated our patient with a 10-day course of penicillin VK and UV-B phototherapy. Eight weeks later, she had 90% resolution of her lesions. However, our patient subsequently experienced a flare, suggesting that she might go on to develop chronic plaque psoriasis. JFP

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