Clinical review

Prurigo: A clinical review

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Prurigo is a widely used dermatologic term without a precise definition. This may be because authors cannot yet agree as to whether the pruritic papule or nodule in the various forms of prurigo is a primary lesion or is a secondary lesion resulting from excoriation. An attempt will be made to review a working classification that incorporates many of the eponymal prurigos.
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Prurigo is a widely used dermatologic term that, unfortunately, lacks a precise definition that is satisfactory to dermatologists internationally. The intensely pruritic papules and nodules that characterize the various prurigos most probably result from several different pathomechanisms. Some prurigo syndromes are undoubtedly comprised of primary lesions, while others are characterized by lesions which seem to arise only secondary to excoriation. It is the categorization of the various prurigos, with the literally hundreds of eponyms which cloud the literature, that causes breakdown in communication, especially between North American and non–North American dermatologists. It is the goal of this communication to present in the North American literature a working categorization of the prurigos which has attained some degree of consensus in Europe.[1,2] It is with this intention that all of the references presented are in English. The working classification presented divides prurigo into acute, subacute, and chronic forms and attempts to include many older eponymal groupings into these categories (Table I). It is beyond the scope of this review to discuss the following specialized forms of prurigo: Besnier's prurigo (the chronic lichenified, primarily flexural prurigo of atopic eczema), Hutchinson's summer prurigo (a probable photodermatitis), or the prurigos of pregnancy.

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Acute prurigo

Acute prurigo includes a long list of separately named conditions including: strophulus, prurigo mitis, prurigo temporanea of Tommasoli, lichen urticatus, prurigo Hebra, and prurigo simplex acuta. The closest synonym in the American literature would be papular urticaria.

Prurigo simplex acuta or papular urticaria is a condition occurring principally in young children.[3] Primary lesions include papules, vesicles, and/or urticarial lesions (Fig. 1). Lesions last longer than the twenty-four-hour maximum characteristic of urticaria, often persisting for 1 week. Lesions are scattered, occurring mostly on the trunk and proximal extremities. Individual lesions do not become confluent as the papules and vesicles of eczema might. Secondary changes of excoriation are often present. Usually the total number of lesions does not exceed ten to twenty. Lesions may heal to leave postinflammatory hyperpigmentation. Complications include recurrent bacterial infection of the lesions. Attacks may be seasonal and almost always remit on hospitalization.

The histopathology of lesions of papular urticaria has been well described.[4] A moderate to heavy infiltration of lymphocytes and eosinophils, primarily around mid-dermal blood vessels and appendages, accompanied by dermal edema is the

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Table I. Categorization of the prurigos

Current usage	Synonyms
Acute prurigo	Strophulus, prurigo mitis, prurigo temporanea of Tommasoli, lichen urticatus, prurigo Hebra, urticaria papulosa, and prurigo simplex acuta
Subacute prurigo	Kogoj's prurigo subacuta, Darier's prurigo vulgaris, Lutz's prurigo multiforme, Von Zumbusch's lichen urticatus, urticaria papulosa chronica, and prurigo simplex subacuta
Chronic prurigo	Keratosis verrucosa, lichen obtusus corneus, urticaria perstans verrucosa, prurigo nodularis of Hyde, and eczema verrucocallosum

usual finding. Epidermal spongiosis and vesiculation are also seen.[5]

Most authors[1,3-5] agree that the stings of insects, mainly arthropods such as mites and fleas, cause the primary lesions in this condition. Careful epidemiologic evidence accumulated by studying seasonal changes in the disease and studying the patient's home environment,[6] as well as skin test and histologic evidence,[4] and insecticide data all support the insect etiology. In Britain, dog, cat, bird, and human fleas, as well as bedbugs, mosquitoes, and dog lice, have all been implicated.[3] Mites[7,8] and ticks[9] are also reported offenders. It has been postulated that children under 1 year of age do not present with this clinical picture because they have not yet acquired specific sensitivity to the insect antigens, and by young adulthood, hyposensitization may have occurred.[3]

Acute prurigo should be readily diagnosable based on careful clinical examination and history taking. Pediculosis corporis, scabies, dermatitis herpetiformis, and even chronic urticaria could cause confusion. The therapy of acute prurigo will be discussed, together with therapy of the other prurigos.

Prurigo temporanea of Tommasoli occurs in the young adult and again consists of primary papules and/or vesicles. Most authors agree that this is probably prurigo simplex acuta occurring in an older age group.[1]

Prurigo Hebra is a diagnosis that is now rarely made.[1] It is commonly believed that prurigo Hebra, also called prurigo ferox, is simply prurigo simplex acuta that has become persistent due to secondary infection.[1,2] The patients were often children with atopic eczema. Intensely pruritic papules occurred on the extremities, primarily in clusters, and were accompanied by lymphadenopathy. The diagnosis has seldom been made in North America.[10] The incidence of this condition was highest in areas of poor hygiene and malnutrition.[11]

Many conditions that previously merited separate eponymal designations, such as Hebra's or Tommasoli's prurigo, can therefore be grouped under the title "acute prurigo." These may all be prurigo variants whose basic mechanism involves enhanced reactivity to exogenous factors, such as insect bites, which produce primary papulovesicular lesions which are then excoriated.

Subacute prurigo

The name "subacute prurigo" is intended to encompass several previously described syndromes including: Kogoj's prurigo subacuta, Darier's prurigo vulgaris, Lutz's prurigo multiforme, and Von Zumbusch's lichen urticatus. On close examination of the literature on these various conditions, no distinctive clinical or pathologic features can be identified to justify their separation from each other.[1]

Subacute prurigo tends to occur in middle-aged patients, especially in women. Prurigo lesions are symmetrically distributed, involving principally the trunk and extensor surfaces of the extremities. While the face and scalp may be affected, the palms and soles are spared.[12] Some patients have an atopic background and have dermographism.[13]

In all types of subacute prurigo, the primary lesion is believed to be a papule. The presence of a vesicle has been the source of controversy because it is so rapidly excoriated away. In a recent study, twenty-eight patients with prurigo simplex subacuta were carefully examined and primary lesions were found in all cases.[12] Histology revealed spongiosis, perifollicular mononuclear cell infiltrates, and exocytosis of mononuclear cells. The authors did not find vesicles in any biopsies. They

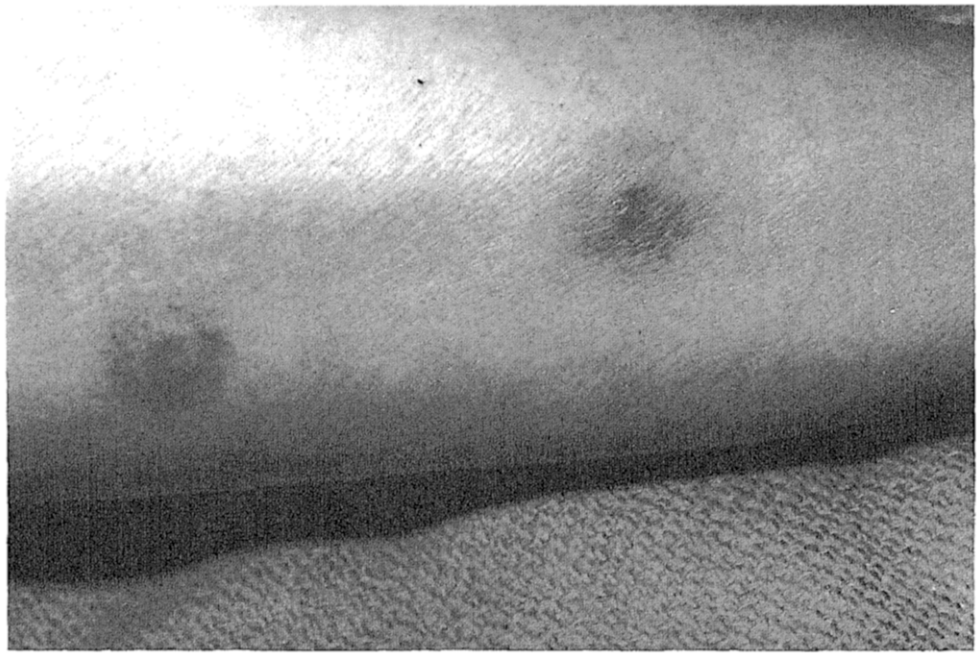

Fig. 1. Acute prurigo lesions showing primary papules as well as secondary changes from excoriation.

proposed that the primary lesion results from an eczematous reaction in the follicular wall.[12] Their hypothesis may account for the absence of lesions on palmoplantar skin.

There have been many arguments, primarily in Europe, about the identity or nonidentity of the several syndromes clustered together here under the title "subacute prurigo." Subacute prurigo may be a common clinical picture resulting from multiple underlying etiologies. The concept of subacute prurigo is not expressed in the American literature. Like the Europeans, however, we too struggle with the categorization of patients with extensive excoriations who also show primary papular eruptions. Rosen and Algra[14] recently reported a papular eruption in black men, which, while different from classic prurigo simplex subacuta according to the authors, certainly illustrates our dilemma with classifying pruritic papular dermatoses. The use of the diagnostic category, "subacute prurigo," is not advocated by us. We do believe that patients with extensive excoriations who also have primary papular eruptions must begin to be evaluated in a more systematic way in hopes of eventually achieving a classification based on pathomechanisms in this probably heterologous group of conditions.

The clinician must obviously be careful not to miss cases of diagnosable dermatoses, such as dermatitis herpetiformis, transient (or persistent) acantholytic dermatosis, or scabies, when considering a diagnosis of prurigo simplex subacuta. Many patients given this diagnosis in Europe appear to be under stress and some may have more profound psychiatric disease.[1] A search for underlying internal disease, as for pruritus without a primary rash, is advocated by some authors.[1] This will be discussed below. Therapy will also be reviewed.

A prurigo that is difficult to classify is dermographic prurigo as reported by Marcussen.[15] While quite common in Scandinavia, it has not been reported frequently elsewhere, perhaps due to its becoming "lost in the past in the heterogeneous chronic prurigo groups," according to Rook and Wilkinson,[2] who believe that it may be "common, but often unrecognized in Britain."

Urticarial wheals and excoriations develop at sites of pressure or rubbing of the skin, as from clothing. Most reported patients are dermographic,

Fig. 2. Chronic prurigo lesions illustrating individual papules and nodules as well as confluence to form a plaque.

middle-aged women, a high percentage of whom may have emotional factors contributing to their symptoms. This condition most probably overlaps with symptomatic dermographism.

Chronic prurigo

This diagnostic category includes several previously described entities, including: keratosis verrucosa, lichen obtusus corneus, urticaria perstans verrucosa, and prurigo nodularis of Hyde, to name a few. This corresponds to the main entity to which American dermatologists apply the word prurigo, prurigo nodularis.

Prurigo nodularis is quite diagnosable clinically. Lesions are hemispherical, 0.5 to 3.0 cm, often irregular nodules with a horny, sometimes crateriform, depressed surface (Fig. 2). Plaques are occasionally present, and much excoriation and postinflammatory hyperpigmentation are usually seen. Patients may have multiple lesions, with the backs of the forearms and the thighs being favorite sites of involvement. Skin between lesions is usually normal. New lesions develop intermittently but old lesions tend to persist, occasionally healing with some scarring and pigment change.

The histology of lesions is characterized by marked hyperkeratosis and acanthosis approaching pseudoepitheliomatous hyperplasia. A dense, mixed infiltrate fills the dermis and includes histiocytes, lymphocytes, and some mast cells and eosinophils. Hyperplasia and degeneration of nerve fibers, hyperplasia of Schwann cells, and occasional schwannoma formation are found when lesions are studied by both light and electron microscopy; these changes are believed to represent a nonspecific reaction to injury.[16–18]

Prurigo nodularis and gluten enteropathy have been reported in association in two patients.[19] The report by Greer[20] of three cases of prurigo nodularis and uremia underscores that no review of the prurigos is complete without at least a brief overview of the systemic causes of pruritus without a primary rash. The following systemic causes of pruritus should be excluded in patients with prurigo: obstructive biliary disease (intrinsic, extrinsic, or drug-induced), chronic renal failure, lymphoma, leukemia, polycythemia rubra vera,

solid tumors, carcinoid syndrome, hypo- and hyperthyroidism, possibly diabetes mellitus, parasitic infestations, and occult drug reactions.[21–24] Hypertrophic lichen planus can be misdiagnosed as prurigo nodularis if attention is not drawn to the often present violaceous color of lichen planus and if oral or other typical lichen planus lesions are not found. Psychiatric factors contributing to the disease may be found in some patients with chronic prurigo, but it is impossible to draw definite conclusions in the absence of firm data.[25]

Therapy. The most important aspect of treatment for acute prurigo is the disinfestation of the child's home. This often requires the assistance of professional exterminators. Treatment can include topical corticosteroids. Systemic antihistamines are sometimes beneficial. Systemic antibiotics may be required for secondarily infected lesions. Fisher[26] recommends the following topical antipruritic repellent: menthol, 0.3 gm; sulfur ppt., 3.6 gm; isopropyl alcohol, 40.0 ml; calamine lotion, q.s. ad., 120.0 ml.

For the subacute and chronic prurigos, once the itch, scratch, itch cycle has begun, symptomatic therapy of pruritus is complicated by the difficulty in breaking that cycle. Oral antihistamines are an important aspect of therapy. They are especially useful at bedtime when relief from the distractions of daytime activity often leads to an increase in pruritus of any etiology, and when higher doses can be used because of obvious better toleration of the secondary drowsiness. Emollients are important, as xerosis so often exacerbates pruritus. Mild counterirritant antipruritic agents, such as ¼% to ½% menthol, can be added to the emollient. Sensitizing agents containing topical anesthetics such as benzocaine should be avoided. However, topical pramoxine (Tronothane), a topical anesthetic with far less sensitizing potential, might be useful.[27,28] Mild topical corticosteroids can be used, with caution to avoid cutaneous atrophy. The trimming of fingernails to lessen their excoriating potential is helpful. Occasionally inpatient therapy removes the patient from his environment, allows for greater sedative therapy, and facilitates the use of occlusive bandage therapy. Psychopharmaceuticals and tranquilizers have been advocated.[1] Occasionally a short course of systemic corticosteroids may be indicated.

Prurigo nodularis is notoriously therapy-resistant. Intralesional corticosteroids to the most chronic lesions are often beneficial in breaking the itch, scratch, itch cycle temporarily. Systemic antihistamines and even systemic psychopharmaceutical therapy are often used. Occlusion with various wraps and bandages, both to reduce patient access to the lesions and to enhance the action of topical corticosteroids or tars, is helpful. The general antipruritic measures discussed with subacute prurigo are useful adjuncts to therapy. Recent case reports suggest that thalidomide in doses of 200 to 400 mg per day might benefit patients with prurigo nodularis.[29] Local photochemotherapy has also been successfully used.[30] Currently, trials are underway to assess critically the possible roles of thalidomide and photochemotherapy (PUVA) in treating prurigo nodularis. Shelley,[31] in his review on therapy of prurigo, advocates the use of maintenance antibiotic therapy for a protracted course. Erythromycin is particularly recommended as being effective. It is difficult to postulate a mechanism of action for this therapy.

We have reviewed many different eponymal syndromes of prurigo and have attempted to categorize them as acute, subacute, or chronic prurigos. The first two have primary lesions and chronic prurigo does not. It is hoped that through better communication, North American and non–North American dermatologists can jointly arrive at a future categorization of the prurigos based on an understanding of basic pathomechanisms.

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