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Clinical variants of pityriasis rosea

Francisco Urbina, Anupam Das, Emilio Sudy

Pityriasis rosea (PR) is a common, self-limited papulo-squamous dermatosis of unknown origin, which mainly appears in adolescents and young adults (10-35 years), slightly more common in females. It has a sudden onset, and in its typical presentation, the eruption is preceded by a solitary patch termed “herald patch”, mainly located on the trunk. Few days later, a secondary eruption appears, with little pink, oval macules, with a grayish peripheral scaling collarette around them. The secondary lesions adopt a...
Urbina F et al. Pityriasis rosea variants

Table 1 Clinical classification of pityriasis rosea

| Classical adult PR and pediatric PR |
|-------------------------------------|
| Based on herald patch               |
| No herald patch                     |
| Only herald patch (absence of secondary lesions) |
| Multiple herald patches             |
| Herald patch in atypical location   |
| Based on location of lesions        |
| Limited to scalp                    |
| Limited to trunk                    |
| Limited to limbs-girdle (pityriasis circinata et marginata of Vidal) |
| Limited to flexures (inverse type)  |
| Limited to the extremities          |
| Acral type                          |
| Along the lines of Blaschko         |
| Unilateral                          |
| Based on morphology of lesions      |
| Purpuric or hemorrhagic             |
| Urticarial                          |
| Erythema multiforme-like            |
| Papular                             |
| Follicular                          |
| Vesicular                           |
| Giant                               |
| Hypopigmented                       |
| Irritated                           |
| Based on course of the disease      |
| Relapsing                           |
| Recurrent                           |
| Persisting                          |
| Relapsing and persisting            |
| PR-like rashes (drug-induced)       |

PR: Pityriasis rosea.

Figure 1 Herald patch. Solitary erythema-squamous lesion, sharply defined, round or oval, mainly located on the trunk or proximal extremities.

Figure 2 Classical pityriasis rosea. Exanthematous eruption with erythematosquamous lesions following cleavage lines on the trunk.

Figure 3 Pediatric pityriasis rosea. Typical lesions of PR affecting an 8-mo-old boy. PR: Pityriasis rosea.

characteristic distribution along the cleavage lines of the trunk, with a configuration of a “Christmas tree”. In most cases, the eruption lasts for 6 to 8 wk. Its incidence has been estimated to be 0.68% of dermatologic patients[1], varying from 0.39%[2] to 4.8%[3].

Not so rarely (20%)4,5, an atypical eruption may develop, concerning several aspects about the morphology or distribution of the lesions, their symptomatology and evolution.

The purpose of this article is to review and illustrate the diverse clinical presentations of PR (Table 1), which may vary in morphology, symmetry, duration, size and distribution of lesions, mucosal involvement and symptomatology.

Classical PR
A classical PR is preceded by the herald patch, an erythematous round or oval lesion, 2-5 cm in diameter, ocassionally covered by fine scales (Figure 1). Prodromal symptoms, consisting of headache, general malaise, or flu-like symptoms are ocassionally encountered. Few days later (5-15 d), a secondary rash appears, consisting of similar; but smaller lesions, mainly located on the trunk (Figure 2). Pruritus is usually mild or absent, but can vary in intensity. The eruption lasts for 4-6 wk and fades, leaving no sequelae. Generally, it only appears once throughout life. In 75% of patients the lesions appear between the ages of 10-35 years6.

Pediatric PR
Infrequently PR may affect children (Figure 3), with a prevalence between 8%7 to 12%6 below 10 years
and 4% below 4 years of age\textsuperscript{6} in Caucasians, whereas in dark-skinned children it increases to 26%\textsuperscript{8}. Papular lesions prevail in them, with a short period between the herald patch and the general eruption (4 d vs 14 d in adults), and a shorter duration of the exanthema (16 d vs 45 d). The majority of cases have been described in children with ages between 3 to 9 years old, contrasting with the illustrated case of 8-mo, showing a classical variant. About half of the cases show prodromal symptoms\textsuperscript{7}.

**BRIEF DESCRIPTION OF CLINICAL VARIANTS OF PR**

**Herald patch in atypical location**

Although not mentioned in the literature, we had the opportunity to come across a patient who presented with a herald patch on a sole, and a secondary classical eruption on the trunk and proximal aspect of the extremities (Figure 4).

**Circinata and marginata PR**

Seen mainly in adults with few and large lesions only located on limbs-girdle, hips, shoulders, axillae or inguinal regions\textsuperscript{10-11}.

**Inversus PR**

The lesions are located on flexural areas (axillae, groins), face, neck (Figure 5), and acral areas (palms and soles), without affecting the trunk\textsuperscript{12}.

**PR of extremities**

In this variant, the lesions are confined to the extremities, with typical squamous plaques (Figure 6). The trunk is not affected.

**Acral PR**

The lesions are exclusively located on palms, wrists, soles\textsuperscript{13} (Figure 7), without involvement of the flexures (axillae, groins and face), opposite to inversus PR.

**Purpuric or hemorrhagic PR**

Macular purpuric lesions and petechiae may appear over different locations (Figure 8) including the palate. Purpuric lesions have also appeared bilaterally on the legs in a man with a typical rash on the trunk, affecting the lines of cleavage and with collarette scaling\textsuperscript{4}.

**Urticarial PR**

Palpable itchy wheals-like lesions with peripheral collarette scaling (Figure 9) following the lines of skin cleavage\textsuperscript{4,10}.

**Erythema multiforme-like PR**

In some cases, classical lesions of PR may be accompanied by targetoid lesions resembling erythema multiforme (Figure 10). It presents with papulosquamous lesions, admixed with few targetoid lesions distributed on the trunk, face, neck or arms\textsuperscript{14,15}. There is no history of herpes simplex infection.

**Papular PR**

Multiple small papular lesions, 1-3 mm in diameter with peripheral collarette, located on the trunk and proximal extremities, along the skin cleavage lines (Figure 11). It appears predominantly in young patients\textsuperscript{4}. 

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Figure 4  Herald patch in atypical location. Herald patch on a sole (A) and (B) typical PR eruption affecting trunk and proximal thighs. PR: Pityriasis rosea.

Figure 5  Inversus pityriasis rosea. Lesions distributed on face and neck in two patients; the trunk is not affected.
Follicular PR
It has been described in a 9-year-old boy with predominantly follicular scaly lesions, arranged in annular configuration[16]. The initial lesions consisted of pruritic plaques mainly located on the abdomen, thighs and groins; five days later, a striking follicular eruption - with central clearing and a peripheral collarette- developed on the posterior trunk. Prodromal symptoms included sore throat, malaise and low grade fever (Figure 12).

Vesicular PR
Generalized itchy eruption of vesicles of 2-6 mm in diameter with a rosette scaling has been described in young adults and children[17-21] (Figure 13).

Gigantea PR of Darier
The dimensions of the herald patch is greater than usual, being described with the size and shape of a
Hypopigmented PR
It is essentially similar to the classic PR, with a preceding herald patch and a secondary eruption, but with hypopigmented lesions from the beginning, mainly distributed on the trunk (Figure 15). It is more frequent in dark-skinned individuals. It should not be confused with secondary hypopigmentation after a common PR.

Irritated PR
A PR with severe itch, pain and burning sensation on contact with sweat\(^{(5,23)}\) (Figure 16).

Relapsing PR
It usually recurs within one year of the first episode, among 2.8%-3.7% of patients\(^{(8,24)}\). Relapses usually show absence of herald patch, and the size and number of secondary lesions are smaller. The duration of this episode is shorter and with less constitutional symptoms. Multiple relapses - though rare - have been described\(^{(25,26)}\).

Persistent PR
By definition it lasts more than 3 mo. Its incidence in a series was 2\(^{\%}\)\(^{(3)}\). Most patients (75%) show a herald patch\(^{(1)}\) and complain of systemic symptoms (most commonly fatigue, or headache, insomnia, irritability). The eruption persists for 12-24 wk. Oral lesions are common (75%), principally strawberry tongue, erythematous macules, vesicular lesions and petechiae.

Relapsing and persisting PR
It has been described in a young man with three

Figure 11 Papular pityriasis rosea. A: Papular lesions with peripheral collarette (Courtesy of Priyankar Misra, Junior Resident, Dermatology, Burdwan Medical College, West Bengal, India); B: Herald patch on the neck and disseminated discrete papular eruption in a girl.

Figure 12 Follicular pityriasis rosea. Follicular lesions with scaling (Courtesy of Shankila Mittal, Junior Resident, Dermatology, Maulana Azad Medical College, New Delhi, India).

Figure 13 Vesicular pityriasis rosea. Vesicular lesions surrounding round to oval plaques (Courtesy of Dibyendu Basu, Junior Resident, Dermatology, Medical College and Hospital, Kolkata, West Bengal, India).
episodes of PR within one year—fulfilling the criteria for relapsing PR, and the last episode during 7 months consistent with persistent PR. Noteworthy, the patient presented with multiple oral ulcers.

Oral involvement in PR
Oral lesions in PR are more common in dark skinned people. The lesions are difficult to differentiate from aphthous ulcers. Its appearance should coincide with a generalized eruption with the characteristics of PR. The lesions may be punctate, erosive, bullous or hemorrhagic. They disappear concomitantly as the skin eruption fades.

PR-like rashes
They consist of exanthematous rashes which appear following the intake of several drugs: ACE inhibitors, gold, isoretinoin, non-steroidal anti-inflammatory agents, omeprazole, terbinafine, and tyrosine-kinase inhibitors. Many of them resemble PR vaguely (Figure 17), so it may be considered as a separate condition. There is no previous herald patch and the eruption is monomorphous.

DISCUSSION
PR is a self-limited, acute inflammatory dermatosis, which occasionally could be persistent or recurrent. In rare situations, the symptoms or presentation may be troublesome, thus making difficulty in diagnosis or having a significant impact on the patient’s quality-of-life. Its etiology has not been clearly established, but a viral origin has been suspected for years.

Recently, there are increasing evidences to suggest the role of human herpes virus (HHV) in the etiopathogenesis of PR. Additional evidences suggest that PR is associated with reactivation of HHV 6-7. Diminished levels of natural killer cells and B-cell activity in the lesions of PR has been observed. This suggests the role of a T-cell mediated immunity. Besides, increased amounts of CD4 T cells and Langerhans cells have been found in the dermis, which possibly points towards viral antigen processing and presentation. However, this matter is still debated since some individuals are infected with HHV 6-7 and do not develop the disease. PR has also been reported following vaccinations as well (Bacillus Calmette-Guerin, influenza, H1N1, diphtheria, smallpox, hepatitis B, pneumococcus, etc.)

The diagnosis of PR is essentially clinical (Table 2), and in rare circumstances a biopsy may be required. Histological features are not specific and include focal parakeratosis, hypogranulosis, spongiosis, papillary dermal edema, mild perivascular lymphohistiocytic infiltrate, exocytosis and extravasated erythrocytes in the papillary dermis.

Differential diagnosis
Secondary syphilis: Meticulous history taking, previous history of chancre, lymphadenopathy, positive VDRL
test, histology showing plasma cells and endarteritis obliterans are suggestive. Lesions of secondary syphilis are monomorphous and always asymptomatic; they almost always affect palms and soles.

**Dermatophytosis:** It may be troublesome to differentiate when the only lesion of PR is the herald patch. However, a mycotic lesion expands progressively and shows a clear center, whereas herald patch remains inalterable. Positive KOH mount is the pointer.

**Guttate psoriasis:** History of sore throat, presence of rain-drop pattern and histology are important clues. Scales are thicker and silvery-white.

**Subacute cutaneous lupus erythematosus:** Photosensitivity is the rule. Besides, histology shows epidermal atrophy and basal layer degeneration.

Rarely, primary HIV infection, seborrheic dermatitis, drug rash, erythema multiforme and cutaneous T cell lymphoma may also be confused with PR. Hypopigmented variant may be confused with pityriasis alba (lesions are mainly located on the face or arms and it is usually associated with atopic dermatitis), hypopigmented mycosis fungoides (lesions are large, persistent, and mainly distributed on buttocks and lower trunk), and progressive macular hypomelanosis of the trunk (lesions are slowly progressive, tend to coalesce, and do not show desquamation).

**Therapeutic options**

Many cases require no treatment at all, only reassurance directed to the patients, underlying the benign nature and self-limited duration of the disease, which do not leave sequelae and that other members of their family or friends will be not affected. Therapeutic options when needed (in the case of many or symptomatic lesions) include the use of emollients and topical corticosteroids, and antihistamines when itching.

The use of oral macrolides (erythromycin and azithromycin) have shown controversial results. Initially, these were found to be beneficial but recent studies show that macrolides are ineffective in the management of PR.

Since the current concepts of etiopathogenesis may imply the role of HHV-7 and HHV-6 in the causation of PR, antivirals like acyclovir have been found to show good response. The effectiveness of phototherapy is debated and further studies need to be conducted. A statement about the management of PR has been recently raised. Main conclusions include an adequate diagnosis, impact of the eruption in the quality of life since many patients do not necessitate any treatment, and use of oral acyclovir 400 mg three times daily for seven days, when not contraindicated or possible adverse effects are suspected.

**CONCLUSION**

The diagnosis of typical PR should not be difficult for any dermatologist. Nevertheless, its atypical presentations - as defined here - can be a challenge for the clinician. We hope the article will be helpful to the clinicians, in identifying numerous variants of this common disease.

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![Figure 17 Pityriasis rosea-like rash. A: The eruption in this case was probably related to the ingestion of levothyroxine in a 33-year-old man, extensively affecting the trunk; B: The lesions are small and monomorphous (Courtesy of Dr. Elizabeth Rendic).](image)
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