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Original Article

Pityriasis rosea among pediatric patients: A cross-sectional, institution based study

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Abstract

Background Pityriasis rosea (PR) is an acute, self-limited papulosquamous disorder. The incidence of PR is around 0.5–2% and is commonly seen in young healthy persons, between 10 to 35 years. In paediatric age, prevalence is between 8% to 12% below 10 years and 4% below 4 years. The common differential diagnosis of PR is syphilis, tinea corporis, pityriasis versicolor, guttate psoriasis and pityriasis lichenoides.

Objective The aim of this study was to find out the demographic and clinical profiles of pityriasis rosea among paediatric (less than 18 years) patients.

Methods The study was carried out over a period of twelve months at Dermatology Out-patient department at tertiary care centres of East India and a total of fifty paediatric (less than 18 years) cases of PR were recruited for the study. The diagnosis was made clinically with the details of history, examination and relevant investigations being recorded in case record form, after getting consent from patient or guardian.

Results Fifty pityriasis rosea (PR) patients in paediatric age group were recruited from Dermatology out-patient department during study period. The mean age of presentation was 12.45 years with range being 2 to 18 years. Females outnumbered males (Female: Male ratio 1.27:1) in our study. Classical herald patch was seen in 42 (84%) cases. Atypical morphology was seen in 12 (24%) cases. Pruritus was the only symptom which was noted in 31 patients (62%).

Conclusion PR is usually diagnosed clinically but atypical presentation of PR is not uncommon. So high degree of clinical suspicion is needed to diagnosis the atypical form.

Key words
Pityriasis rosea, paediatric pityriasis rosea, atypical presentation.

Introduction

Pityriasis rosea (PR) is an acute, self-limited papulosquamous disorder. It was first described as "roseola annulata" in 1798 by Robert Willan.[1] The name "pityriasis rosea "was derived from Greek & Latin words; pityriasis (scaly) & rosea (pink). French physician Camille Melchior Gibert first named the condition pityriasis rosea in 1860.[2] The incidence of PR is around 0.5–2% and commonly seen in young healthy persons between 10 to 35 years of age[3]. In the paediatric age group, prevalence is between 8% to 12% below 10 years and 4% below 4 years of age.[4,5]

In classical PR "herald patch" or "mother patch" develops on trunk or proximal extremities in more than 50% of cases. The herald patch commonly varies between 2 to 4 cm in diameter, is pink to salmon coloured and the margin has a

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collarette of scales with the free edge pointing inwards. In few cases, eruption is usually preceded by mild prodromal symptoms like fever, malaise and headache.

Numerous secondary lesions appear within few days. The lesions are usually round to oval in shape, distributed on the trunk with their long axis along Langer's cleavage lines and is often referred to as a "fir tree" or "Christmas tree" pattern of distribution.

The disease is self‑limiting and usually persists for 2–6 weeks and resolves spontaneously.

Numerous hypotheses have been postulated about the exact cause of PR, however HHV 7 and 6 are the most likely etiologic agents.[6]

Methods

An institution based, cross sectional, study was undertaken at Dermatology Out-Patient Department of a tertiary care centre of east India over a period of twelve months. The study was approved by the Ethics Committee of the institute concerned. All new clinically diagnosed paediatric (less than 18 years) cases of pityriasis rosea were recruited into our study and those who were unwilling to participate in the study were excluded.

A comprehensive history was recorded in the case record form with reference to their demographic parameters like age, sex, religion, residence; along with the clinical profile including the prodromal symptoms, type and distribution of lesions and any complication. A meticulous drug and immunization history of the patients and family history of similar lesions were noted, if any.

Diagnosis was mainly on clinical basis. KOH mount to exclude dermatophytes and VDRL was done in all adolescent cases to exclude Syphilis. Histopathological examination was done in patients with atypical presentations

Results

Total 50 pityriasis rosea (PR) patients were recruited during study period from Dermatology out-patient department (OPD).The mean age of presentation was 12.45 years with range being 2 to 18 years. 62% of patients were above 10 years followed by 34% of patients in 5 to 10 years age group and 4% of patients were less than 5 years. Females outnumbered males (Female: Male ratio 1.27:1) in our study.

18 patients (36%) presented during December to January and 15 patients (30%) in June to July, 8 (16%) patients in August to September and 6 (12%) patients in April to May months.

Classical herald patch was seen in 42 (84%) cases. Multiple herald patches were noted in 5 (10%) and 3 patients presented without herald patch. Majority of the lesions were seen on the abdomen in 15 patients (30%) followed by chest in 10 patients (20%), back in 8 patients (16%), buttocks in 7 patients (14%), upper extremities in 5 patients (10%), face and neck in 2 patients (4%).

The secondary eruptions appeared within 3 to 7 days after appearance of herald patch in all patients and the lesions were distributed predominantly over trunk & upper extremities in 47 (94%) patients, followed by face in 8 (16%) patients, lower extremities in 4 (8%) patients and over axilla & groin in 2 (4%) patients. Papulosquamous variety was seen in 76% cases

Table 1

Total patients (n)	50
Age group	2-18 years
Mean age	12.45 years
Sex	F:M= 1.27:1
Prodromal symptoms	22 (44%)
Pruritus	31 (62%)

Table 2

Herald patch	Classical- 42 (84%) Multiple- 5 (10%) Missing- 3 (6%)	Abdomen-15 (30%) Chest- 10 (20%) Back- 8 (16%) Buttock- 7 (14%) Upper extremities -5 (10%) Face and neck -2 (4%)
Secondary lesion	Secondary lesion	Trunk and upper extremities- 47(94%) Face- 8 (16%) Lower extremities- 4 (8%) Axilla & groin- 2 (4%)
Atypical morphology	12 (24%)	Papular- 4 (8%) Follicular- 3 (6%) Urticarial- 3 (6%) Lichenoid- 2 (4%)

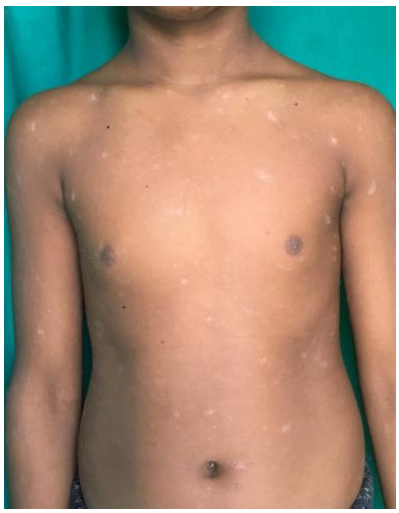

Figure 1 Multiple, hypopigmented, scaly plaques over the anterior aspect of trunk and upper arm.

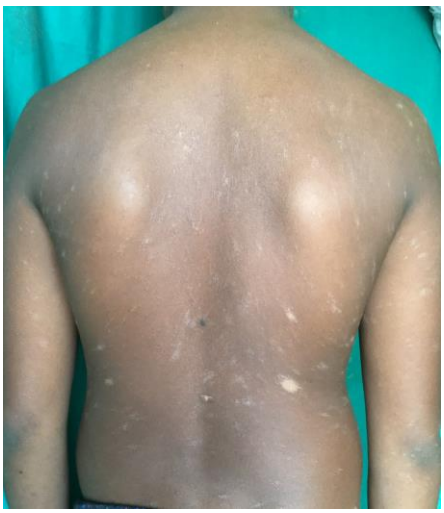

Figure 2 Multiple hypopigmented, scaly, round to oval plaques distributed in a Christmas tree pattern.

Atypical morphology was seen in 12 (24%) cases, 4 patients had papular variant of PR, follicular and urticarial lesion were in 3 patients each and 2 patients had lichenoid form of PR.

Pruritus was the only symptom noted in 31 patients (62%) and was mild in nature.

In our study 22 patients (44%) complained of fever and myalgia. These symptoms along with upper respiratory tract infection was seen in further 34% of cases.

5 patients had taken oral antibiotics before appearance of the skin lesion and 3 patients were on oral & topical antifungals for dermatophytes infection of the skin. There was no prior history of immunization before the eruption of skin lesions. There was no history of similar lesions in family members.

On systemic examination no significant features were noted.

32% of our patients recovered within 2 weeks and majority of the patients (84%) had resolution by 4 weeks without significant consequences except post-inflammatory hypopigmentation.

Discussion

Pityriasis rosea (PR) is a papulosquamous disorder reported in all races with the incidence around 0.5–2%. It is commonly seen in young healthy persons, between 10 to 35 years of age.[3] In the paediatric age, prevalence is between 8% to 12% below 10 years and 4% below 4 years of age.[4,5] PR has also been reported in infants.[7]

In our study, the age ranged from 2 to 18 years with mean age being 12.45 years. Majority (62%) of the patients were above 10 years followed by 5 to 10 years (34%) and below 5 years (4%). In paediatric studies it has been reported that PR is more common above 10 years of age.[8,9]

Out of the 50 patients with PR, 28 were female and 22 were male (Female: Male: 1.27:1). The sex distribution was similar to those in other epidemiologic studies on PR which report an overall male to female ratio of 1:1.43.[4, 10, 11] But male predominance has also been reported in the literature.[8,9,12]

Modest seasonal variation is seen with peaks in spring and fall, both in adult & paediatric age groups.[10] But conflicting results have also been reported in many studies.[8,11,12]

In our study, 18 patients (36%) presented during December to January and 15 patients (30%) during June to July. 16% and 12% patients attended the OPD during August-September and April-May respectively. The peak incidence was during winter.

In majority of studies in paediatric patients, the classical "herald patch" or "mother patch" develops on trunk or proximal extremities.[4,8,11,12] Multiple herald patches and PR without herald patch have also been reported.[4] The herald patch commonly varies between 2 to 4 cm in diameter, is pink to salmon coloured, and the margin has a collarette of scales with the free edge pointing inwards.

In our study, classical herald patch was seen in 42 (84%) cases. Multiple herald patches were noted in 5 patients (10%) and 3 patients presented without herald patch. Most of the lesions were present over abdomen in 15 (30%) patients, followed by chest in 10 (20%) patients, back in 8 (16%) patients, buttock in 7 (14%) patients, upper extremities in 5 (10%) patients, face and neck in 2 (4%) patients.

In the course of the disease, within few days after herald patch, numerous secondary lesions appear. The onset of secondary lesions in children is earlier (4 days) when compared to adults (14 days).[5] The lesions are usually round to oval in shape, distributed on trunk with their long axis along Langer's cleavage lines. This is often referred to as a "fir tree" or "Christmas tree" pattern of distribution on the trunk and proximal extremities. Majority of the secondary lesions are papulosquamous with papular, vesicular, follicular and urticarial being the other variants. The face, palms and soles are usually spared but not in all cases.[13] Unilateral and acral PR has also been reported in children.[14] Face, scalp and oral mucosa involvement is also seen in the paediatric age group.[15-17]

In our study secondary eruptions appeared within 3 to7 days after herald patch in all patients and the lesions were distributed predominantly over trunk and upper extremities in 47 (94%) patients, followed by face in 8 (16%) patients, lower extremities in 4 (8%) patients and over axilla & groin (inverse PR) in 2 (4%) patients. The lesions of secondary eruptions varied in size from 0.5 cm to 2 cm in diameter and papulosquamous variety was seen in 76% cases.

Atypical variants of PR are not very uncommon, it can occur in around 20% of cases.[3] PR can be atypical with respect to morphology, distribution, site and course of disease.[13,14,16,17] The various atypical morphological variants include papular,[16] follicular,[18] urticarial, vesicular,[19] purpuric,[20] lichenoid, EM-like PR.[21]

Atypical morphology of PR was seen in 12 (24%) cases with 4(8%) patients having papular variant, follicular and urticarial variant in 3(6%) patients each and 2 (4%) patients with lichenoid form of PR.

On histopathological examinations common features were epidermal hyperplasia with focal parakeratosis in mounds, spongiosis and variable amount of extravasation of RBCs with superficial perivascular infiltrations.

Histopathological features of PR are relatively nonspecific and it looks like a subcutaneous or chronic dermatitis. It consists of focal parakeratosis, diminished or absent granular layer, spongiosis, extravasation of RBCs, mild to moderate perivascular lymphohistocytic infiltrations and homogenization of papillary collagen.[24]

The common differential diagnosis of PR are secondary syphilis, tinea corporis, pityriasis versicolor, guttate psoriasis and pityriasis lichenoides. Whenever there are difficulties in diagnosis, confirmation should be done by serological test for syphilis, KOH mount for fungal infections or by skin biopsy.

Among subjective symptoms, mild to moderate pruritus can be seen in 70%–90% of paediatric PR patients.[10,12] In our study pruritus was the only symptom and it was noted in 31 patients (62%) and was mild in nature.

In paediatric patients around 50% cases show prodromal symptom with fever, headache, arthralgia and malaise being predominant.[5]

Upper respiratory tract infection was reported from 13% to 83% in different studies of paediatric patients.[8,9,12]

In our study 22 patients (44%) complained of fever, myalgia. These complaints along with upper respiratory tract infection was seen in further 34% cases.

Though there is no convincing evidence that drugs can cause typical pityriasis rosea, NSAIDs have been identified as offending agents in isolated cases.[22] In drug‑induced PR, herald patch or typical collarette of scales is not always seen and it does not resolve completely until the drug is withdrawn.[23]

In our study, 5 patients had taken oral antibiotics before appearance of the skin rash and 3 patients were on oral Fluconazole & topical antifungals for dermatophyte infection of the skin. It was not possible to establish whether those drugs were responsible for PR-like lesion. So a meticulous drug history must be elicited especially in atypical and recurrent PR.

Clusters of cases have been reported among the family members.[11] But history of PR-like skin eruptions among the family members were not noted in any patient in our study.

Most of the eruptions of PR in paediatric age usually resolves spontaneously within 4 wks.[10,11]

In our study, 32% of our patients recovered within 2 weeks and majority of the patients (84%) had resolution by 4 weeks without significant consequences except for post-inflammatory hypopigmentation.

Conclusion

Pityriasis rosea (PR) is an acute, self-limited papulosquamous disorder which is commonly seen in young healthy persons. PR is usually diagnosed clinically but atypical presentations are not uncommon. So high degree of clinical suspicion is required to diagnosis the atypical presentations. A meticulous drug history needs to be elicited especially in patients with atypical pityriasis rosea.

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