

**AN ANALYTICAL STUDY OF CLINICAL FEATURES IN 100 CASES OF PITYRIASIS ROSEA**Saravanan N<sup>1</sup>, Sindhuja Ramasamy<sup>2</sup>, Murugan S<sup>3</sup>, Sridhar V<sup>4</sup>, Vanathi T<sup>5</sup>, Sarathchandran B<sup>6</sup>, G. P. Rekha<sup>7</sup><sup>1</sup>Associate Professor, Department of Dermatology, Venereology and Leprology, Chengalpattu Medical College.<sup>2</sup>Associate Professor, Department of Dermatology, Venereology and Leprology, Thanjavur Medical College.<sup>3</sup>Assistant Professor, Department of Dermatology, Venereology and Leprology, Chengalpattu Medical College.<sup>4</sup>Senior Resident, Department of Dermatology, Venereology and Leprology, Chengalpattu Medical College.<sup>5</sup>Junior Resident, Department of Dermatology, Venereology and Leprology, Chengalpattu Medical College.<sup>6</sup>Junior Resident, Department of Dermatology, Venereology and Leprology, Chengalpattu Medical College.<sup>7</sup>Junior Resident, Department of Dermatology, Venereology and Leprology, Chengalpattu Medical College.**ABSTRACT****BACKGROUND**

Objective- Pityriasis rosea is an acute self-limiting disease, probably infective in origin, affecting mainly children and young adults and characterised by distinctive skin eruption and minimal constitutional symptoms.

Aim of the study is to analyse the incidence of PR in Government General Hospital, Chengalpattu during the period from November 2016 to January 2017, age and sex distribution, probable aetiological factor, symptoms of PR, morphological types and distribution of PR, associated cutaneous findings and the course of the disease.

**MATERIALS AND METHODS**

100 self-reporting patients of age group 3 - 68 years with clinical features of Pityriasis rosea, who attended Dermatology OPD in Chengalpattu Medical College over a period of 6 months from September 2016 to February 2017 were enrolled.

**RESULTS**

Out of 100 cases studied 27 (27%) were females and 73 (73%) were males. Prodromal illness prior to the onset of rash was reported by 8 patients (8%), of whom 1 had fever alone, 1 had fever with history of jaundice and 6 had upper respiratory tract infection. Itching was absent in 51 patients; 49 patients (49%) had itching, of whom most patients (46) had only mild itch. Herald patch was present in 82 cases and absent in 18 cases. Both morphology and distribution were classical in 45% patients. In the remaining 55%, atypical morphology and/or atypical distribution were observed. In our study, none of the patients had mucous membrane or nail involvement. In 81% of patients, the lesions resolved within a period of 6 - 8 weeks. Active acne vulgaris is seen in 5 patients, of whom 1 had eczema also and 1 had seborrhoeic dermatitis in addition. Post Acne scar is seen in 1 patient. Nevus achromicus is seen in 1 patient. Epidermal nevus in 1 patient and combined hypo- and hyperpigmented moles in 1 patient.

**CONCLUSION**

Clinical diagnosis of Pityriasis rosea was easy based on the presence of Herald Patch, characteristic morphology and distribution pattern of the lesions. The present study has revealed male preponderance. The age incidence was found to be high in adolescents and young adults. No familial incidence was observed. Factors like wearing of new garments, stress and upper respiratory tract infections were found to precipitate the disease in some cases. In most of the patients the lesions vanished without trace and post-inflammatory hypopigmentation was noted in few patients, but none had hyperpigmentation. History of recurrence of the disease was also present in one case. Histopathological study showed the features of nonspecific chronic dermatitis.

**KEYWORDS**

Pityriasis rosea, Herald Patch, Patch, Types, Association.

**HOW TO CITE THIS ARTICLE:** Saravanan N, Ramasamy S, Murugan S, et al. An analytical study of clinical features in 100 cases of pityriasis rosea. J. Evolution Med. Dent. Sci. 2017;6(26):2142-2148, DOI: 10.14260/Jemds/2017/465

**BACKGROUND**

Pityriasis rosea is an acute self-limiting disease, probably infective in origin, affecting mainly children and young adults, and characterised by distinctive skin eruption and minimal constitutional symptoms.

The initial lesion, Herald patch, is followed several days to weeks later by the appearance of numerous similar-appearing smaller lesions, located along the lines of cleavage of the trunk (Christmas tree pattern). Pityriasis rosea has been reported in all races; the average annual incidence at one centre was reported to be 0.16 percent. It is more common between 10 and 35 years of age with equal sex distribution or a slight female preponderance HHV-6 and 7 may play a role extensively in some patients with PR. The various morphological types are macular, papular, vesicular, lichenoid, pustular, purpuric, urticarial and Erythema Multiforme (EMF) like. The lesions can occur anywhere on the skin but it is rarely seen over the scalp, palms and soles. After a period of about six to eight weeks, the lesions resolve spontaneously leaving a residual hypo- or hyperpigmentation without any complications.

Financial or Other, Competing Interest: None.

Submission 22-02-2017, Peer Review 18-03-2017,

Acceptance 24-03-2017, Published 30-03-2017.

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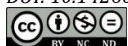
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DOI: 10.14260/jemds/2017/465



**MATERIALS AND METHODS**

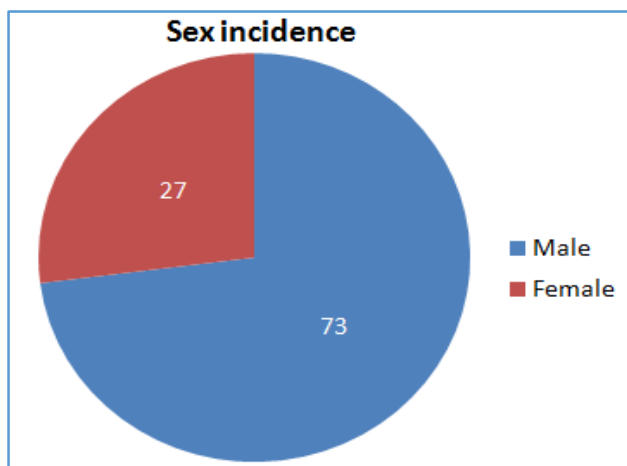
The study was conducted at the Department of Dermatology, Chengalpattu Medical College during the period from September 2016 to January 2017. All the patients attending the Dermatology Outpatient Department were screened and patients with pityriasis rosea were enrolled. The clinical diagnosis of Pityriasis rosea (PR) was made in each case based on the morphology and distribution of the skin lesions. During the first visit of the patients their name, age, sex, address, occupation, income, etc. were noted. Complaints, probable precipitating factors, prodromal illness, contact and family history were also noted. A thorough examination of both general and systemic was carried out. Complete dermatological examination including the number, site, size, morphology and distribution of primary and secondary lesions followed by examination of palms and soles, hair, nail and mucous membrane was carried out. Based on this, patients were classified as classic or atypical variety of PR. Investigations like haemogram, urine and motion examination, skin scraping for fungus, blood VDRL, etc. were done. All the patients were given symptomatic treatment and followed up for a period of 3 months at weekly intervals. The sequelae and complications if any were recorded. Data thus obtained was compiled, tabulated and statistically summarised.

**RESULTS**

In our study, maximum incidence was noted in the age group between 11 - 30 years (53%). The youngest patient in the study was 3 years old and the oldest was 68 years old, which is similar to that reported in literature. Both sexes are equally susceptible according to some authors, while others quoted a female preponderance.<sup>1</sup> In our study, a male predominance was observed.<sup>1</sup>

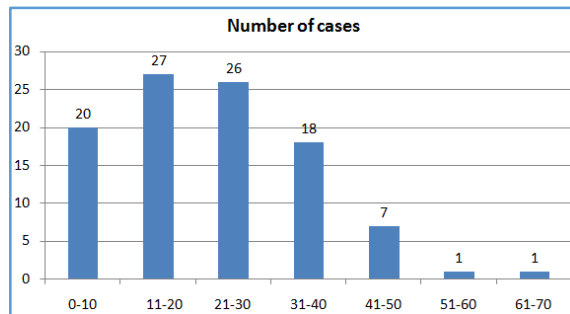
Number of Males	Number of Females
73	27

*Table 1. Sex Incidence*

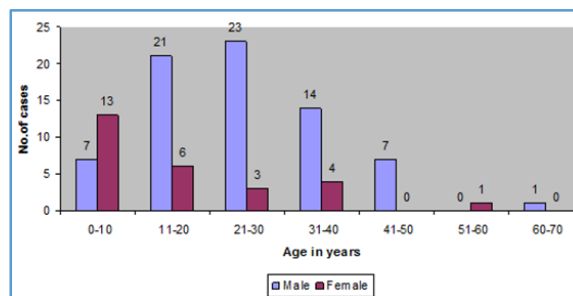


Age in Yrs.	Number of Cases
0 - 10	20
11 - 20	27
21 - 30	26
31 - 40	18
41 - 50	07
51 - 60	01
61 - 70	01

*Table 2. Age distribution*



**Age/Sex Distribution**



Literature states that wearing of new garments may precipitate or aggravate the disease. In our study, only 4 patients gave a history of wearing new garments prior to the onset of the disease. Other provoking factors like and psychogenic stress (2%) were also recorded in the present study. Literature reports also indicate similar findings.<sup>2</sup>

Prodromal illness like upper respiratory tract infection and malaise were seen in 8 patients (8%), similar to that seen in literature. Literature reports herald patch to be seen in 50% - 90% of all PR patients,<sup>2</sup> but in our study, it was noted in 82% of patients. The location of the herald patch has been seen to occur more frequently on the trunk (42%) followed by upper limb and the thigh, which is similar to that reported in literature. The herald patch which probably represented the primary inoculation site of the virus according to various authors was seen to occur over the covered areas of the body.<sup>3</sup> In our study also the herald patch was seen to occur over the covered areas of the body in majority (66%) of the patients.

The Herald patch is absent or undetected in about 20% of cases. In our study also Herald patch was absent in 18% patients. Rarely, the Herald patch may be double or multiple, often close together. In our study also one patient had double Herald patch close together.

Site of Herald Patch	No. of Patients
Chest	09
Abdomen	07
Umbilicus	02
Loin	08
Back	16
Shoulder	02
Scapula	01
Neck	04
Face	07
Upper limb	13
Thigh	09
Lower limb (Knee and below knee)	04

*Table 3. Distribution of Herald patch*

According to literature secondary lesions starts appearing after an interval of 5 - 15 days (few hours to 2 months), in crops at 2 - 3 days interval over 1 week to several weeks. In our study after a varying period ranging from 1 - 30 days following the appearance of the Herald patch, the generalised eruptions followed. They appeared in crops, intermittently at various intervals of 3 - 10 days.

The generalised eruptions have been found to manifest in various morphological forms like papular, vesicular, lichenoid, EMF-like purpuric, urticarial and pustular forms.<sup>4</sup> In our study only papular, lichenoid, EMF-like lesions have been observed.

Distribution of the secondary eruption over scalp, face and penis has been reported to be uncommon.<sup>5</sup> In our study no scalp involvement was seen, but 1 patient had penile lesions, 7 patients (7%) had lesions over the face. Involvement of palm and soles is also uncommon and was seen in 3 patients (3%).

Both morphology and distribution (typical bathing suit) were classical in 45% patients. In the remaining 55% atypical morphology and/or atypical distribution were observed.

**Atypical Morphology**

Papular PR	19
EMF-like PR	06
Lichenoid PR	02

**Table 4. Atypical morphology of secondary eruption**

**Atypical Distribution**

Inverse PR	11
Unilateral PR	01
Flexural	03

**Table 5. Atypical distribution of secondary eruption**

**Atypical Sites**

Face	07
Palm and soles	03
Distal limb	07
Penis	01
Thigh	02
Abdomen	01

**Table 6. Atypical sites of involvement**

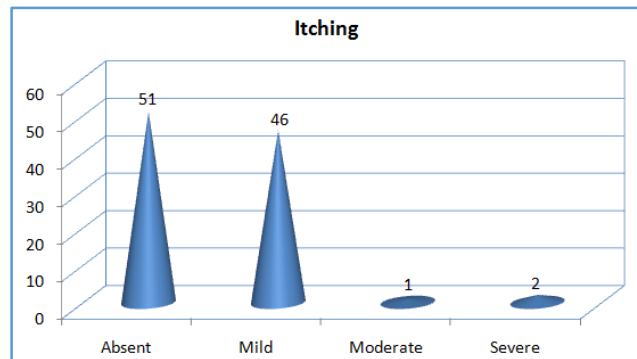
Literature states that Unilateral Pityriasis rosea has been reported. In our study, we had a case of Unilateral Pityriasis rosea.

Literature states that mucous membrane involvement is rare in PR, but may involve the oral and genital mucosa. In our study, mucous membrane involvement was not seen.

According to literature pruritus is mild in 25% of cases, 50% mild-to-moderate and 25% had severe itching.<sup>1,6</sup> In our study 46% of patients had mild itching, 1% moderate and 2% had severe itching, one of whom had history of swimming in river water.

Grade	No. of Patients
Absent	51
Mild	46
Moderate	01
Severe	02

**Table 7. Grading of Itching**



As reported in literature, most cases had a self-limiting course and the disease lasted for 6 weeks.<sup>7</sup> In our study, 91% of patients had a self-limiting course of about 6 - 9 weeks. The longest duration of 14 weeks was observed in 2 patients, one had EMF-like PR, the other one had Classical Pityriasis rosea with palmoplantar involvement.

In most of the patients (97%) the lesions vanished without trace, which was similar to that in literature. Post-inflammatory hypopigmentation was seen in 3 patients (3%). However, hyperpigmentation was not seen like that reported in literature.

Nail dystrophy had been reported by Silvers and Glickman 1974, following Pityriasis rosea.<sup>8</sup> In our study, none of the patients showed any nail changes.

Literature reports that PR is associated with skin diseases like atopy, seborrhoeic dermatitis and acne vulgaris.<sup>9</sup> In our study also association with seborrhoeic dermatitis and acne vulgaris have been found.

Associated Skin Disease	No. of Patients
Acne vulgaris	06
Canities	03
Seborrhoeic Dermatitis	04
Nevus	03
M.C	01
L.N	01
Accessory Nipple	01
Eczema	01
Fibrous polyp	01
P. alba	01
Pediculosis capitis	01
Polymorphic light eruption	01
Striae distensae	02
Skin tag	02
Lipoma	01
Tinea versicolor	02
Tinea cruris	01
Traumatic fissure	01
Androgenic alopecia	01

**Table 8. Associated skin diseases**

**Total Duration of the Disease**

Total Duration	No. of Patients
6 weeks	27
7 weeks	23
8 weeks	31
9 weeks	10
10 - 14 weeks	09

**Table 9. Total duration of the disease**

In 81% of patients, the lesions resolved within a period of 6 - 8 weeks.

There was history of recurrence in 2 cases in our study. These findings are also consistent with those in literature, where recurrence has been seen in 2% of the cases.<sup>10</sup>



**Figure 1. Lichenoid PR**



**Figure 2. Flexural PR**



**Figure 3. Palmoplantar Involvement**



**Figure 4. Typical Christmas Tree Appearance**



**Figure 5. EMF-like PR**



**Figure 6. Unilateral PR**



**Figure 7. Inverse PR**



**Figure 8. Papular PR**

## DISCUSSION

Pityriasis rosea (PR) of Gibert is defined as an acute, self-limiting disease, probably infective in origin, affecting mainly children and young adults and characterised by a distinctive skin eruption and minimal constitutional symptoms<sup>11</sup> or a self-limiting disorder characterised by the development of asymptomatic erythematous scaly macules on the trunk. Pityriasis means fine scales; rosea denotes rose coloured or pink.

## Epidemiology

The average annual incidence at one centre was reported to be 0.16 percent (158.9 cases per 100,000 person-years). Traore A et al in his cross-sectional study calculated the prevalence of PR to be 0.6%.<sup>12</sup> PR affects all ages from infants to the elderly. It is uncommon in young children (less than 2 years) and elderly (more than 65 years).<sup>9</sup> Most patients are between the years of 10 and 35.<sup>9,10</sup> The youngest reported patient was three months old. The oldest reported patient was 83 years old.<sup>10</sup>

Camille-Melchoir Gibert stated that females are affected more often than males. Many studies have reported a slight female preponderance, the most frequently reported male: female ratio being 1: 1.2 to 1: 1.5.<sup>1,9</sup> The reason for the apparent female predominance is unknown.

In temperate zone, it is more common during winter. In tropical regions, PR has been found to be more common during hot and dry season.<sup>1</sup>

## Aetiology

The evidence to support an infectious aetiology for PR is its distinct clinical course. There is a primary skin lesion followed by a secondary eruption with complete remission, mostly within about eight weeks. This course of the disease is similar to most of the viral infections. Moreover, many patients do not have a second attack due to lifelong immunity, a phenomenon which is commonly seen in many viral diseases.

Herpes virus like particles has been found in 71% of PR lesions. HHV6 and HHV7 have been suggested as the cause for the eruption. The viral DNA is reported to be present in peripheral blood mononuclear cells in the lesional and unaffected skin of majority (80% - 100%) of individuals with acute PR. HHV7 is detected slightly more frequently than HHV6, but often both viruses are found. However, evidence for the presence and activity of HHV-6 or HHV-7 is also found

in a proportion (10% - 44%) of unaffected individuals. Hence, its role as a causative agent is yet to be proved.<sup>9,13</sup>

## Probable Pathogenesis

HHV-7 and HHV-6 do not infect keratinocytes, but instead infect CD4<sup>+</sup> T cells within blood and are retained within these cells in a latent form in most individuals. These cells are the likely source of cell-free viral DNA found in plasma or serum samples of patients with PR. They are also the likely source of the scattered perivascular and perifollicular virus-positive cells observed within some lesions of PR.

## Clinical Features and Diagnosis

The herald patch is the first lesion to appear in a PR patient. It is a solitary round or oval lesion with a central wrinkled salmon coloured area and a darker red peripheral zone separated by a collarette of fine scaling. It may vary from 1-10 cm in diameter. The herald patch may occur anywhere on the body, although the trunk and upper arms are its predilected sites, i.e. in the areas covered by clothes.<sup>14</sup> Rarely, it may be on the face, scalp or the penis.<sup>9</sup> When the plaque is irritated, it may have an eczematous papulovesicular appearance. The herald patch is seen in 80% of all PR patients.<sup>2</sup> In another study where a series of 127 patients were examined, 76% were reported to have a herald patch.

Prodromal symptoms are usually absent.<sup>9</sup> In a minority of patients, flu-like symptoms have been reported including general malaise, headache, nausea, loss of appetite, fever and arthralgias.

The herald patch is followed by the secondary eruption, the interval being 5 to 15 days.<sup>9</sup> Two main types of lesions are seen, one is the lesion of similar morphology as the herald patch but smaller in size and the other is small, red, non-scaling papules that gradually increase in number and spread peripherally. Both the forms can exist concomitantly. Old lesions usually fade in two weeks, but new lesions will continue to appear in crops at 2 - 3 days interval over a week or 10 days.<sup>14</sup> Each lesion shows circinate scaling where the scales are attached only at the periphery, sometime resulting in the characteristic "Hanging Curtain" sign.

In classical cases only the trunk and proximal aspects of the extremities are involved, resulting in T-shirt-and-shorts, high-necked short sleeved vest or bathing suit pattern. Distribution may be distal to the elbow in 4.8% to 12% of cases and distal to the knees or the elbows in 6% to 15.3% of cases.<sup>9</sup> The face is usually spared, except in children.<sup>9</sup> Palms and soles are spared in most cases. Palmoplantar involvement in PR was reported by Klauder JV as early as 1924.<sup>5</sup> On the anterior and posterior aspect of trunk, the characteristic orientation of the secondary eruptions along the skin cleavage line has been described in various terms as Christmas tree pattern, inverted Christmas tree pattern and fir tree pattern.

Pruritus is severe in 25% of patients; slight-to-moderate in 50% and absent in 25% of patients. When PR is irritated, itching is usually prominent.

The duration of the rash varies from 2 to 12 weeks, but may last for as long as five months which is known as PR perstans.<sup>7</sup> Post-inflammatory hyper- or hypopigmentation may also last for months, but usually the lesion vanishes without trace.<sup>10</sup>

Relapse may occur in 2% of cases after an interval of a few months or many years. In a series of 826 patients, the rate of relapse was noted as 2.8%.<sup>5</sup>

Up to 39% of patients with PR may have some atypical features. Atypical features include atypical rash morphology, rash size, rash distribution and site of the lesions.<sup>12</sup> The Herald patch may be absent or undetected in about 20% of cases.<sup>9</sup> There may be two or more patches. The primary plaque may be the sole manifestation of the disease or only one of two lesion. Atypical rash morphology includes papular, vesicular, purpuric or haemorrhagic, urticarial, lichenoid and EMF-like forms.<sup>9</sup>

Pityriasis rosea gigantea of Darier is rare characterised by large sized plaques, which can have sizes up to the patient's own palm. Papular PR is the other extreme in the size of PR lesions.<sup>15</sup> It is more often seen in children. The secondary eruption is numerous small papules 1 - 2 mm in diameter.<sup>8</sup>

Fewer and larger lesions often localised to the axillae or inguinal region may be seen known as Pityriasis circinata et marginata.<sup>5</sup> Acrally distributed secondary rash is known as PR inversus.<sup>16</sup> Cases with strictly unilateral involvement have been reported.<sup>17</sup>

Asymptomatic intraoral lesions in the form of tiny punctate haemorrhages with pinhead erosion discrete and slightly elevated lesions sometimes with superficial erosions have been reported. Drugs including arsenic,<sup>11</sup> tyrosine kinase inhibitors, captopril,<sup>18</sup> gold, isotretinoin, lithium, non-steroidal anti-inflammatory agents, omeprazole<sup>18</sup> and terbinafine,<sup>19</sup> have been implicated in causing PR-like rashes.

Lymphadenopathy may occur in patients with PR, especially early in the course of the disease and in association with flu-like symptom. Pitting of nails and onychodystrophy after PR has also been reported.<sup>20</sup> Other associated skin diseases are atopy, seborrhoeic dermatitis and acne vulgaris. Involvements of internal organs have not been documented. No complications have been reported except for occasional mild flu-like symptom.

### Investigations

PR is a clinical diagnosis. Lesional histopathological changes are non-specific. Taking a lesional biopsy thus cannot confirm a diagnosis of PR. Histopathological examination was not performed even in a recent clinical trial on PR, as it seldom helps in diagnosis according to the investigators. For adolescents at least, secondary syphilis should be excluded with serology tests for all cases diagnosed with PR, especially when the palms or soles are affected. Elevation of the erythrocyte sedimentary rate, a slight decrease in the number of T-lymphocytes and an increase in B-lymphocytes were reported.<sup>5</sup>

### Treatment

Since PR is self-limited, there is no need for active treatment for all patients. Education and reassurance is enough for most of the patients. Water, Soap, Wool and Sweating may cause irritation and should be avoided in acute stages. New clothing must also be avoided. For patients with mild pruritus, zinc oxide or calamine lotion will suffice. For patients with pruritus severe enough to disturb the quality of life, a course of Erythromycin can be given in addition. Tab. Erythromycin 250 mg QID for 2 weeks; for children 25 - 40 mg/kg/day in four divided doses for 2 weeks)<sup>21</sup> along with antihistamines

and mid potency topical corticosteroid for symptomatic relief of pruritus. Systemic corticosteroids should be restricted to adult patients with exceptionally recalcitrant and symptomatic PR resistant to other treatments.<sup>22</sup> For patients with flu-like symptoms and/or extensive skin diseases, oral Acyclovir 800 mg, 5 times daily for 1 week may hasten recovery from disease.<sup>23</sup> Phototherapy, ultraviolet radiation in erythrogenic doses has been found to be useful. But post-inflammatory, pigmentation at the site of the PR lesion may be a complication.<sup>24</sup> Dapsone has been used in severe vesicular PR.<sup>25</sup>

### CONCLUSION

Pityriasis rosea is a self-limiting skin disease. Clinical diagnosis of Pityriasis rosea at the earliest presentation is important to avoid unnecessary investigations and to give reassurance about the self-limiting nature of the disease. The practicing dermatologist should be aware of the various clinical presentations of the disease. There is no need for active treatment in most of the patients. The present study has revealed male preponderance. The age of incidence was found to be high in adolescents and young adults. No familial incidence was observed. Factors like wearing of new garments, stress and upper respiratory tract infections were found to precipitate the disease in some cases. In most of the patients, the lesions vanished without trace.

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