

## PITYRIASIS ROSEA: CLINICAL STUDY AND EFFECT OF ERYTHROMYCIN ON ITS CLINICAL COURSE

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**OBJECTIVES:** To study the common clinical presentation and rare variants of Pityriasis Rosea, natural course of the disease, age and sex distribution, seasonal incidence and effect of oral erythromycin stearate on clinical course of the disease. **METHODS:** 100 patients of Pityriasis Rosea were considered and detailed history and general examination was done. Follow up was done to know the duration of the disease with treatment and with placebo. **RESULTS:** The study shows commonest age group affected to be 11-30 years, with male to female ratio of 2.1:1. The most common type was classical Pityriasis Rosea. Trunk and extremities were the most common sites of lesions. Most cases were seen during the cooler part of the year. The duration of the disease in placebo group was between 8 to 10 weeks, whereas in treatment group it was 4 to 6 weeks. **CONCLUSION:** The study concludes that Pityriasis Rosea is a self-limiting disease, more common in adolescent to adults with male preponderance, common in cooler part of the year. Erythromycin has reduced the total duration of the disease and signs and symptoms significantly, hence it is effective in Pityriasis Rosea.

**KEY WORDS:** Pityriasis Rosea; Erythromycin; Atopy; Herald Patch.

**INTRODUCTION:** Pityriasis Rosea is a mild inflammatory exanthem characterized by salmon colored papules, plaques and macular lesions that are at first discrete but may become confluent. The incidence is highest between the ages 15 and 40, and the disease is most prevalent in the spring and autumn. Women are more frequently affected than men<sup>1</sup>.

The disease, with its different names has been mentioned in the literature since the eighteenth century, but it was Gibbert, who described the common Macular form in 1860 and introduced the name "Pityriasis Rosea" meaning rose coloured scale<sup>2</sup>.

The exact cause of the disease is still not known. But natural history and rarity of second attacks have given rise to the belief that it is an infectious disease. Various reports have suggested possible links between Pityriasis Rosea and bacterial, viral or mycoplasmal infections, insect bite, auto immune disease, isomorphic response and psychogenic cause. But others failed to implicate any infective agents<sup>3</sup>.

Watanabe et al have provided evidence for the long held belief that Pityriasis Rosea is a viral exanthem. They demonstrated active replication of Human Herpes Virus (HHV) 6 and 7 in mononuclear cells of lesional skin as well as identifying the viruses in serum samples of patients, whereas these viruses are nearly universally acquired in early childhood and remain in a latent phase as mononuclear cells; the eruption is likely secondary to reactivation leading to viremia<sup>4</sup>.

A significant degree of space-time clustering of cases was found in British study, which supports the hypothesis of infectious etiology<sup>5,6</sup>.

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The seasonal pattern of Pityriasis Rosea, with more frequent occurrence in colder months is compatible with the pattern of increased incidence of respiratory tract infection, during the fall and winter.

The precipitating factors of Pityriasis Rosea included infections, pregnancy, medications, seborrheic dermatitis and atopy. In majority of cases, the first manifestation is herald patch or mother patch. It is a solitary, erythematous, scaly, plaque ranging from 2 to 5 cms in diameter. The most common site of herald patch is the anterior aspect of the chest. Other sites include back, neck, abdomen and extremities<sup>7</sup>. The secondary eruptions appear at an interval of 2 days to 2 months after the appearance of herald patch.

Pityriasis Rosea shows variations in its clinical presentation. Depending on the morphology and distribution of lesions a number of clinical variants like papular, urticarial, vesicular, purpuric, gigantic plaques inverse and localized forms have been described. A type resembling erythema Multiforme also has been described<sup>8</sup>.

Various treatment modalities have been used against background of unknown etiology, such as topical steroids, oral dapsone, UV light, sunlight. Erythromycin has been shown recently to clear Pityriasis Rosea in two weeks<sup>7,9</sup>.

**OBJECTIVES:** This clinical study has been done to know the presentation and pattern of the disease, the natural course of the disease, the age and sex distribution, seasonal variation and effect of erythromycin on its clinical course.

**MATERIALS AND METHODS:** The clinical material for the present study was obtained from patients attending the Department of Dermatology, Venereology and Leprosy, Basaveshwar Teaching & General Hospital attached to Mahadevappa Rampure Medical College, Gulbarga.

The study was cleared by the ethical committee of the college. The procedures followed were in accordance with the ethical standards of the Institutional Ethics committee on human experimentation and with the Helsinki Declaration of 1975, as revised in 2000. Informed Consent was obtained from adult volunteers prior to enrolment of subjects for the aforementioned study. One hundred patients suffering from Pityriasis Rosea who attended the outpatient department were included in the present study after obtaining informed consent during the period from September 2011 to August 2012. The diagnosis of Pityriasis Rosea was made clinically. Written consent was taken from patients who were included in the study.

Each patient was subjected to a detailed review of clinical history and a complete physical examination including the skin as outlined in the Proforma.

Particular emphasis was given to the duration of lesions, site of onset, family history, presence of herald patch, secondary eruption, progress of the lesions, probable precipitating factors like drugs, new garments, associated conditions like atopy, seborrheic dermatitis, acne vulgaris and pregnancy.

Detailed dermatological examination of skin was conducted and morphology and distribution of the lesion were observed. Oral mucosa, genitalia and nails were also examined and the findings were noted. Systemic examination was done in all the patients to find out any associated conditions.

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Haemogram, routine urine analysis, blood VDRL and scrapping and KOH mount for fungus were done in all the cases. Skin biopsy and histopathological examination was carried out only in the atypical type of Pityriasis Rosea to confirm the diagnosis.

**TREATMENT PROTOCOL:** Patients were allocated on random basis to either the treatment group (TG) or the placebo group (PG). Number of patients equally divided between two groups i.e., 50 patients in each group. Subjects assigned to the treatment group were given oral erythromycin stearate daily 1 gram in four equally divided doses that is 250 mg four times daily for two weeks in adults and 25 to 40 mg/ Kg body weight in 4 divided doses per day in children for two weeks. Treatment started in most of the patients during the first two weeks of secondary rash. Those in the placebo group given tablets, not containing erythromycin.

**FOLLOW UP AND ASSESSMENT OF OUTCOME OR RESPONSE:** All patients were evaluated clinically at every 15 days interval for 2 months and response noted in the form of duration of disappearance of existing lesions and absence of new lesions, decrease in the signs and symptoms.

**STATISTICAL ANALYSIS:** Student's 't' test was used for statistical evaluation of the collected data and  $P < 0.001$  was taken as highly significant.

**RESULTS:** Following are the observations and results obtained from the study.

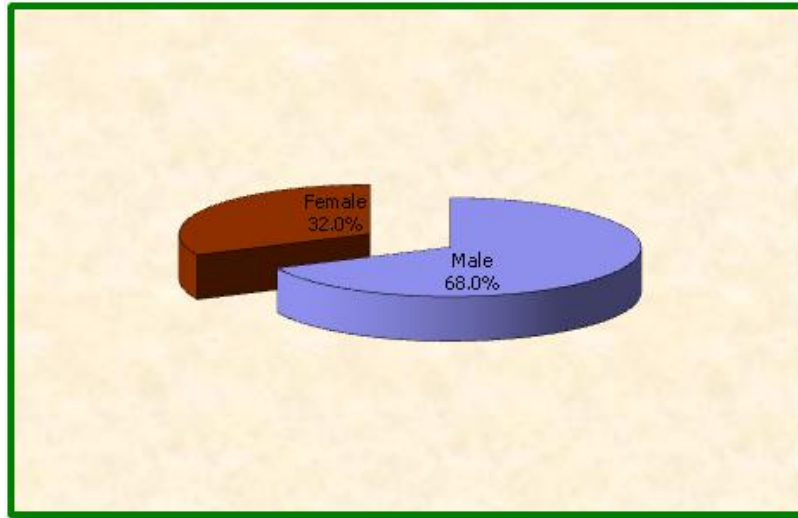
**Figure-1: Age Incidence of Pityriasis Rosea**



In this clinical study of Pityriasis Rosea, the age group of the patients ranged from 1 to 50 years.

The mean age in the males was 19.76 years and that of female was 22.69 years. Out of 100 patients, 48 patients (48%) were seen in the age group of 11-20 years (2<sup>nd</sup> decade). The youngest patient in this study was one year old male child. There were no patients above the age of 50 years.

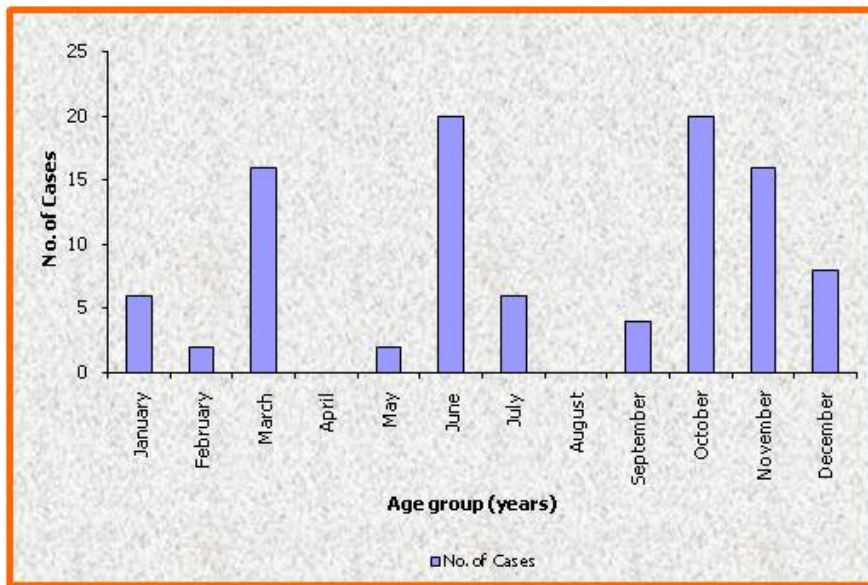
Figure-2: Sex Distribution of Pityriasis Rosea



**Figure 2**

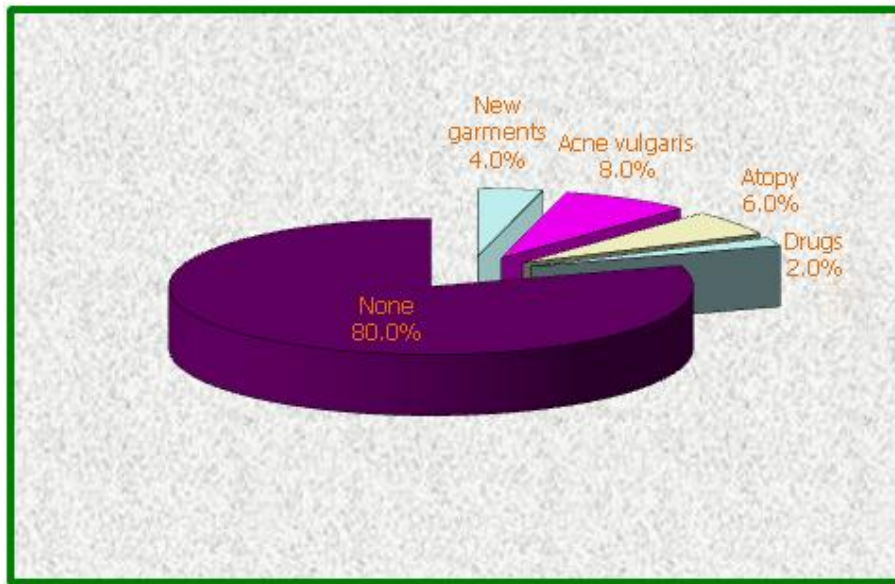
In our study out of 100 cases, 68 (68%) were males and 32 (32%) were females. Male to female ratio was 2.1:1. It was also noted that 52 (52%) males and 24 (24%) females were in the age group of 11-30 years.

Figure-3: Seasonal Incidence of Pityriasis Rosea



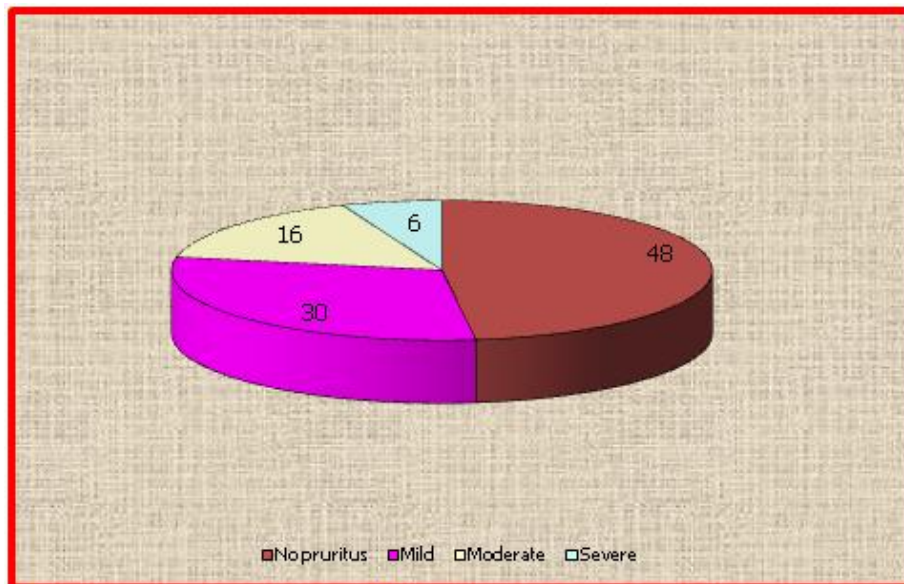
In our study the seasonal variation of pityriasis rosea showed 2 peaks one in the month of June and other in the month of October i.e., 20% each.

**Figure-4: Predisposing factors/ Precipitating Factors**



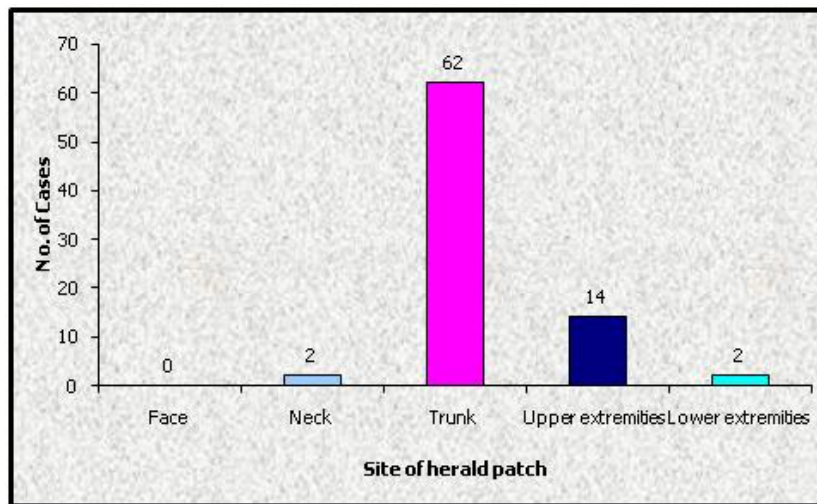
No precipitating factors were observed in 80 (80%) cases.

**Figure-5: Incidence and severity of itching in Pityriasis Rosea**



Six percent of patients experienced severe itching.

**Figure-6: Site of Herald Patch in Pityriasis Rosea**



In our study of 100 patients, 80 patients had herald patch. Among them 62 (77.5%) patients, trunk was the site of herald patch. In 14 (17.5%) patients herald patch was observed on upper extremities and only 2 (2.5%) patients had herald patch on neck and lower extremities each.

**Table-1: Types of Pityriasis Rosea**

Type	No. of cases	Percentage
Classical	72	72.00
Atypical	-	-
Absence of herald patch	20	20.00
Unilateral	2	2.00
Inverse	4	4.00
Papular	2	2.00
<b>Total</b>	<b>100</b>	<b>100.00</b>

Seventy two (72%) patients showed classical pityriasis rosea, the most common type.

**Table-2: Duration of Disease in Placebo Group**

Duration in weeks	No. of cases (n=50)	Percentage
0 - 2	--	--
3 - 4	2	4.00
5 - 6	16	32.00
7 - 8	28	56.00
9- 10	4	8.00
<b>Total</b>	<b>50</b>	<b>100.00</b>

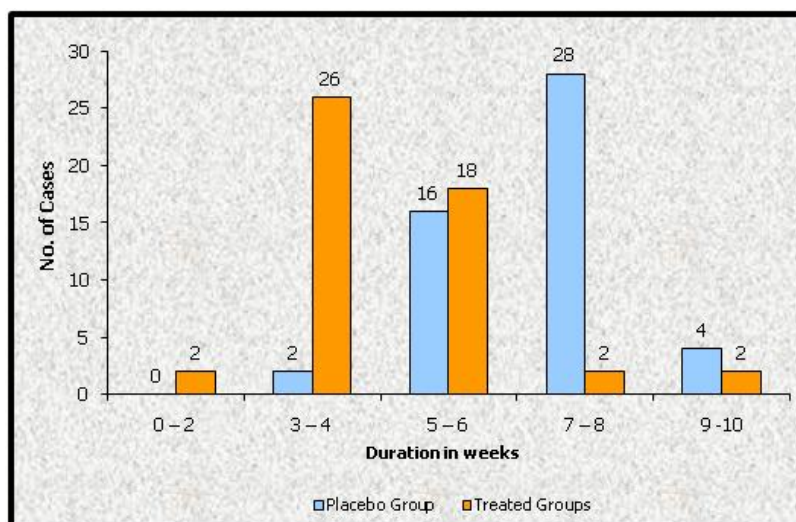
The duration was 8 weeks in 28 cases (56%), 6 weeks in 16 cases (32%), 4 weeks in 2 cases (4%) and 10 weeks in 4 cases (8%).

**Table-3: Total duration of disease in Erythromycin Treated Group**

Duration in weeks	No. of cases (n=50)	Percentage
0 – 2	2	4.00
3 – 4	26	52.00
5 – 6	18	36.00
7 – 8	2	4.00
9- 10	2	4.00
<b>Total</b>	<b>50</b>	<b>100.00</b>

In the present study, in 26 cases (52%) treated with erythromycin, total duration of the disease was (4) four weeks. It was 5 to 6 weeks in 18 cases (36%), 2 weeks in 2 cases (4%), 8 weeks in 2 cases (4%) and 10 weeks in 2 cases (4%).

**Figure-7: Duration of Disease**



Mean duration in treatment group is 4.52 weeks, mean duration in placebo group is 6.86 weeks.

Group	Mean ± SD (weeks)	't' value	P value
Treatment group	4.52±1.65	7.8	<0.001 highly significant
Placebo group	6.86±1.35		

**DISCUSSION:** The present study agreed with the finding of most reports that young adults are the most frequently affected by Pityriasis Rosea. In the literature, the youngest patient was only 3 months old and the oldest was 87 years of age<sup>10,11</sup>. In our study youngest patient was 1 year old and oldest was 50 years of age.

Pityriasis Rosea is not uncommon in children. Ayanlowo et al reported an incidence of 59.7% in patients between 10-29 years of age<sup>12</sup>. In our study 12 (12%) patients were below the age of 10 years.

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Only a few cases of Pityriasis Rosea were reported above the age of 50 years. Heite in his study reported that only 8.5% of patients belonged to this category<sup>13</sup>. In our study, none of the cases were above the age of 50 years.

In our study, out of 100 patients 68 (68%) cases were male and 32 (32%) were female. The male to female ratio was found to be 2.1:1.

Most of the study reported a slight female preponderance over males<sup>11, 12</sup>. However, Cheong and Wong reported a predominance of male over females<sup>14</sup>. Our study also showed male predominance (68%). The reason for this increased male predominance over females could not be drawn from the present study.

Pityriasis Rosea seems to be prevalent all over the world, irrespective of climate. It is generally accepted that highest incidence of Pityriasis Rosea in the temperate zones occur during the cooler part of the year<sup>15</sup>. In our study Pityriasis Rosea was more common during winter season (i.e., October, November and December) 44%.

In our study itching was the commonest symptom. Mandalet al<sup>7</sup> reported in their study that 25% of patients had severe itching, 50% patients had slight to moderate itching and absent in 25% cases.

In the present study 52 cases (52%) had history of itching, out of this 46 (46%) had mild to moderate degree of itching and 6 patients (6%) had severe itching.

Some unknown organisms transmitted from new garments, washed or old ones that have been in storage for long periods were claimed to be the one of the precipitating factors in Pityriasis Rosea<sup>16</sup>. In the present study 4 (4%) patients gave the history of using new garments, 5-14 days before the onset of Pityriasis Rosea. There are several reports<sup>2, 15, 16</sup> associating Pityriasis Rosea like eruptions with drugs. In our study Pityriasis Rosea appeared after the intake of drugs, mainly NSAIDS in 2 (2%) patients.

Atopy has been shown to be more common in Pityriasis Rosea than in controls<sup>17</sup>. Pityriasis Rosea is relatively common in patients with seborrhoeic dermatitis and acne vulgaris<sup>18</sup>. In our study eight patients of acne vulgaris, 6 patients with atopy were seen.

Previous studies<sup>2,17,18,19</sup> showed 70-80% of the cases presented with the classical form of Pityriasis Rosea and 20% of the cases presented with the atypical form of Pityriasis Rosea.

The present study showed 72 (72%) cases presenting with classical Pityriasis Rosea 28 (56%) cases presented with atypical forms. Pityriasis Rosea may be atypical in the appearance or distribution of the lesions or in its course<sup>2, 7</sup>. The herald patch is absent or undetected in about 20% of cases<sup>15</sup>. In the present study, 20 (20%) cases presented without herald patch.

Atypical morphological lesions included papular, vesicular or bullous, urticarial, purpuric or erythema multiforme like lesions. In the present study, 2 cases (2%) presented with papular form of Pityriasis Rosea. Rarely localized or inverse pattern of Pityriasis Rosea were also seen<sup>20, 21</sup>. In our study 2 cases (2%) of localized (unilateral) Pityriasis Rosea, 4 cases (4%) of inverse Pityriasis Rosea were seen.

Sharma et al<sup>5</sup> reported an impressive response to treatment with oral erythromycin. They found erythromycin 250 mg four times a day for adults and 25-40 mg/ kg body weight per day divided into 4 doses for children over a 2 weeks period resulted in complete clearance of lesions. In the present study, 50 patients were treated with oral erythromycin stearate. Out of 50 patients, 26 patients (52%) showed complete response in the form of regression and disappearance of existing



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lesions, no new lesion appeared and decrease in symptoms and erythema in 3-4 week after appearance of herald patch.

18 patients (36%) showed response in 5 to 6 weeks. Only 2 cases showed (2%) response in 2 weeks. 2 cases (2%) each showed response 7-8 weeks and 9-10 weeks each.

In placebo group 28 (56%) cases showed complete response in 7-8 weeks, 16 (32%) cases in 6 weeks, 2 cases (4%) in 4 weeks and 4 (8%) cases in 10 weeks.

The difference in response is statistically significant i.e.,  $p < 0.001$  indicating erythromycin is effective in Pityriasis Rosea.

**CONCLUSION:** Pityriasis Rosea is a self-limiting mild inflammatory exanthem of unknown etiology. It is more commonly seen in the second and third decade of life. A slight male preponderance is seen. It is more common during the winter season.

Clinically it begins with the appearance of Herald patch. Mild to moderate degree of itching is present. The distribution of lesions is mainly on trunk and upper arms i.e., centripetal distribution. Some of the cases are observed after wearing new garments or intake of drugs. Classical Pityriasis Rosea is the commonest type of presentation i.e., herald patch first then followed by secondary eruptions. Atypical manifestations of the disease included absence of herald patch, unusual distribution and morphology of skin lesions.

As the exact etiology has not been proven, various drugs have been used including oral erythromycin with varying response. In patients treated with erythromycin orally, duration of the disease, severity of the lesions and appearance of new lesions also reduced significantly.

The difference in response between treatment group and placebo group is statistically significant i.e.,  $P < 0.001$  indicating erythromycin is effective in Pityriasis Rosea. Erythromycin has reduced the total duration of the disease and signs and symptoms significantly, hence it is effective in Pityriasis Rosea.

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