# A Study Of Efficacy Of Acyclovir In Treatment Of Pityriasis Rosea

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## ABSTRACT

**Background:** Pityriasis rosea (PR) is an acute inflammatory skin disorder. Though self-limiting, but the bothersome symptoms often have a significant impact on the quality-of-life of patients. Despite active labor for nearly one & half century by generations of researchers, the etiology of Pityriasis rosea fails to be demystified. **Aims**: The aim of present study of the efficacy and safety of Acyclovir in treatment of Pityriasis rosea. **Material & Methods**: A prospective controlled study was conducted on 60 patients of Pityriasis rosea attending outdoor patient department of Dermatology, Venereology and Leprosy, SP Medical College and PBM Hospital, Bikaner. The cases were diagnosed on the basis of typical clinical presentation. The characteristic orientation of the discrete circular or oval lesions along lines of skin cleavages, parallel to the ribs with peripheral collarette scaling with central clearance on at least two lesions. **Results:** Most common age group was 12-20 years where total 58.3% patients were found followed by 21-30 (25%), 31-40 and >40 (8.3% each). Out of total 30 patients of study group 20 were males while in the control group out of total 30 patients, 19 were male and this difference was found statistically insignificant ($p>0.05$). Mother patch was present in 50% and 30% of patients in the study and control groups respectively and this difference was also found statistically insignificant ($p>0.05$). **Conclusion**: Acyclovir 800mg 5 times a day for 7 days helps in the reduction of duration of disease and morphological parameter of Pityriasis rosea in terms of erythema, scaling and induration as compared to the control group however a larger study should be performed to confirm these findings.

**Key-words**: Pityriasis rosea, Acyclovir, Skin diseases, Case control.

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## INTRODUCTION

Pityriasis rosea (PR) is an acute inflammatory skin disorder. Though self-limiting, but the bothersome symptoms often have a significant impact on the quality-of-life of patients. The incidence of PR varies from 0.39 to 4.80/100 dermatological patients.[1,2] The association of human herpes virus 6 (HHV-6) and HHV-7 with PR suggest that antiviral agents can be tried to speed up recovery of PR.[3] Till date, supportive care with topical emollients and antihistamines is practiced by dermatologists for this disorder. Oral Erythromycin was once reported to be of benefit to patients with PR,[4] but recent clinical experiences suggest that the use of macrolides may not be useful in the treatment of PR.[5,6] Studies evaluating acyclovir in PR are being conducted worldwide, however, data on Indian patients is scarce.[3,7]

Despite active labour for nearly one & half century by generations of researchers, the etiology of Pityriasis rosea fails to be demystified. Recent controversies about the role of HHV-7 in the etiology, the discovery of significant temporal clustering and the need for specific diagnostic histological criteria have led to an increased interest in this eruption. Various microorganisms including fungi, spirochetes, streptococci, legionella & certain drugs like omeprazole, metronidazole & D-penicillamine have been implicated in the etiology of Pityriasis rosea without any proof.[8]

Precipitating factors of Pityriasis rosea include infection, pregnancy, medication, seborrheic dermatitis, mental stress & garment contact. The first manifestation of the disease in most of the cases is usually appearance of the Herald patch, seen in 50-90% of the cases. It is a solitary oval or round scaly patch, 2-5cms in diameter situated usually on the trunk. This is followed, 5-15 days later by a secondary eruption which appears in crops.[8] The exact etiology of Pityriasis rosea is not known. Seasonal occurrence, clustering of cases and presence of occasional prodromal symptoms suggests the possibility of an infectious agent involved in its pathogenesis.[9-11] Use of new garments or old garments in storage for prolonged period have been suggested as precipitating factors for Pityriasis rosea, indicative of a transmissible infectious agent.[12] A chance observation of improvement of skin lesions of Pityriasis rosea in two patients who were given erythromycin for upper respiratory tract infections, also confirms this hypothesis.[4] It has already been established that drugs like allopurinol, arsenic, bismuth, barbiturate, gold, hydrochlorothiazide, organic mercurials, nimesulide, d-penicillamine, clonidine, isotretinoin and ketotifen can cause eruptions resembling Pityriasis rosea.[8,13,14] Ampicillin and systemic corticosteroids have been found to exacerbate PR.[14] Isolated cases of Pityriasis rosea like rashes have also been reported following administration of captopril, metronidazole and omeprazole.[15,16,17]

## MATERIAL AND METHODS

A prospective case controlled study was conducted on 60 patients of Pityriasis rosea attending outdoor patient department of Dermatology, Venereology and Leprosy, SP Medical College and PBM Hospital, Bikaner. The cases were diagnosed on the basis of typical clinical presentation. These patients were randomly divided into two groups of 30 each in group A (Study group) and group B (Control group). Group A was receive oral Acyclovir 800mg five times a day for 7 days and Cetirizene 10mg at night, topically Calamine lotion or Glycerine lotion till the symptomatic relief and group B was received Cetirizene 10mg in the night, topically Calamine lotion or Glycerine lotion till the symptomatic relief. Subjects were seen for follow-up visits at weeks 1, 3, and 6 following the start of treatment. The patients were diagnosed on the basis of typical clinical features: a single, isolated oval scaly pink maculae or patch (the “herald” or “mother patch”) on the body, particularly on the trunk, upper arms, neck or thighs. The characteristic orientation of the discrete circular or oval lesions along lines of skin cleavages, parallel to the ribs with peripheral collarette scaling with central clearance on at least two lesions.

The extent of the disease was assessed by counting the total no. lesion

0 = Absence of Lesions
1 = 1 to 10 Lesions
2 = 11 to 20 Lesions
3 = > 20 lesions or uncountable

To evaluate the severity of lesions three target symptoms termed erythema (E), infiltration (I) and scale (S) were assessed.

In which erythema assessed by change in colour of the lesion.

0 = Absent
1 = Pinkish in colour
2 = Dusky Red in colour
3 = Bright Red in colour

Infiltration asses by palpation

0 = Non palpable
1 = Palpable

We asses scaling by present of the scaly lesion in total number of lesions present in that area.

0 = No scaling
1 = < 25% of total no. of the lesions
2 = 25-50% of total no. of the lesions
3 = > 50% of total no. of the lesions

To calculate the PRSS, the sum of the severity rating for these three main changes will be multiplied by the numeric value (N) of the extent of the disease.

The formula was written as: PRSS=Nt (Et+It+St) +Ne (Ee+Ie+Se).

The subscript "t" indicates one side of the trunk and the head, and the subscript "e" indicates one side of the extremities. The pruritic symptoms will also be assessed with a 0 to 3 scale as Follows: 0=absence of pruritus; 1=mild (if it occurred only intermittently and it did not interfere with work or rest), 2=moderate (if it was present for much of the day, but at a more tolerable level) and 3=severe (if it interfered with daytime activities or sleep). Patients were followed up after 1 and 2 weeks of treatment and afterward 2 weeks interval to record the effect of the treatment till 6 weeks for follow up to rule out the cases of relapse. The data were compiled in a performa and analyzed.

## RESULTS

The present study shows the mean age of patients in the study group was 20.508.67 years while it was 26.6714.57 in the control group. On applying student 't' test, the difference was found statistically insignificant ($p>0.05$) (Table 1). Acute onset of disease was present in 80% of patients in the study group while 96.7% in the control group, gradual onset of the disease was present in 16.7% and 3.3% patients in the study and control groups, respectively, while the insidious onset of the disease was present in 3.3% of the patient in study group only (Table 2). Mother patch was present in 50% and 30% of patients in the study and control groups respectively and this difference was also found statistically insignificant ($p>0.05$).

Table 3 shows PRSS changes at different visits. In the study group, on the first visit, no patient had their PRSS 0 while 17 patients had their PRSS ≤18 and 13 patients had their PRSS >18. In control group no patient had their PRSS 0 while 16 and 14 patients had their PRSS ≤18 and >181 respectively. The difference was found statistically insignificant ($p>0.05$). On the second visit, in study group no patient had their PRSS 0 while 28 patients had their PRSS ≤18 and 2 patients had their PRSS >18. In control group no patient had their PRSS 0 while 19 and 11 patients had their PRSS ≤18 and >181 respectively the difference was found statistically significant ($p<0.05$).

On the third visit, in study group 3 patients had their PRSS 0 while 26 patients had their PRSS ≤18 and 1 patient had his PRSS >18. In control group no patient had their PRSS 0 while 27 and 3 patients had their PRSS ≤18 and >18 respectively. The difference was found statistically insignificant ($p>0.05$). On the fourth visit, in study group 7 patients had their PRSS 0 while 23 patients had their PRSS ≤18 and no patient had his PRSS >18. In control group no 1 patient had his PRSS 0 while 28 and 1 patients had their PRSS ≤18 and >18 1respectively. The difference was found

statistically insignificant (p>0.05). On the fifth visit, in study group 19 patients had their PRSS 0 while 11 patients had their PRSS ≤18 and no patient had his PRSS >18. In control group no 12 patient had their PRSS 0 while 18 and 0 patients had their PRSS ≤18 and >181respectively. The difference was found statistically insignificant (p>0.05).

The mean PRSS in the study group was 17.6711.12, 9.306.45, 5.634.63, 3.633.58 and 1.172.13 at first, second, third, fourth and fifth visits respectively, while in control group mean PRSS was 17.707.32, 14.007.16, 10.435.76, 6.634.76 and 2.932.90 on first, second, third, fourth and fifth visit respectively. On statistical analysis the difference was found significant at visit II (p<0.05), III, IV and V

**Table 1: Distribution of cases according to age**

| Age Group | Groups | | | | Total | |
|---|---|---|---|---|---|---|
| | Study | | Control | | | |
| | No. | % | No. | % | No. | % |
| 12-20 | 20 | 66.7 | 15 | 50.0 | 35 | 58.3 |
| 21-30 | 7 | 23.3 | 8 | 26.7 | 15 | 25.0 |
| 31-40 | 2 | 6.7 | 3 | 10.0 | 5 | 8.3 |
| >40 | 1 | 3.3 | 4 | 13.3 | 5 | 8.3 |
| Total | 30 | 100 | 30 | 100 | 60 | 100 |
| Mean | 20.50 | | 26.67 | | | |
| SD | 8.67 | | 14.57 | | | |
| T | 1.992 | | | | | |
| P | 0.051NS | | | | | |

**Table 2: Distribution of cases according to onset of disease**

| Onset of Disease | Groups | | | | Total | |
|---|---|---|---|---|---|---|
| | Study | | Control | | | |
| | No. | % | No. | % | No. | % |
| Acute | 24 | 80.0 | 29 | 96.7 | 53 | 88.3 |
| Gradual | 5 | 16.7 | 1 | 3.3 | 6 | 10.0 |
| Insidious | 1 | 3.3 | 0 | - | 1 | 1.7 |
| Total | 30 | 100 | 30 | 100 | 60 | 100 |
| $\chi^2$ | 4.138 | | | | | |
| P | 0.126 | | | | | |

**Table 3: PRSS at different visits**

| Visit | PRSS (range) | Groups | | | | Total | | $\chi^2$ | P |
|---|---|---|---|---|---|---|---|---|---|
| | | Study | | Control | | | | | |
| | | No. | % | No. | % | No. | % | | |
| I | 0 | 0 | - | 0 | - | 0 | - | 0.067 | 0.795 |
| | ≤18 | 17 | 56.7 | 16 | 53.3 | 33 | 55.0 | | |
| | >18 | 13 | 43.3 | 14 | 46.7 | 27 | 45.0 | | |
| II | 0 | 0 | - | 0 | - | 0 | - | 7.954 | 0.005 |
| | ≤18 | 28 | 93.3 | 19 | 63.3 | 47 | 78.3 | | |
| | >18 | 2 | 6.7 | 11 | 36.7 | 13 | 21.7 | | |
| III | 0 | 3 | 10.0 | 0 | - | 3 | 5.0 | 5.686 | 0.058 |
| | ≤18 | 26 | 86.7 | 27 | 90.0 | 53 | 88.3 | | |
| | >18 | 1 | 3.3 | 3 | 10.0 | 4 | 6.7 | | |
| IV | 0 | 7 | 23.3 | 1 | 3.3 | 8 | 13.3 | 5.990 | 0.050 |
| | ≤18 | 23 | 76.7 | 28 | 93.3 | 51 | 85.0 | | |
| | >18 | 0 | - | 1 | 3.3 | 1 | 1.7 | | |
| V | 0 | 19 | 63.3 | 12 | 40.0 | 31 | 51.7 | 3.270 | 0.071 |
| | ≤18 | 11 | 36.7 | 18 | 60.0 | 29 | 48.3 | | |
| | >18 | 0 | - | 0 | - | 0 | - | | |

**Table 4: Statistical analysis of PRSS at different Visits (I to V)**

| Visit | Study Group | | Control Group | | Z value | P value |
|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | |
| I | 17.67 | 11.12 | 17.70 | 7.32 | 0.014 | 0.989 |
| II | 9.30 | 6.45 | 14.00 | 7.16 | 2.671 | 0.010 |
| III | 5.63 | 4.63 | 10.43 | 5.76 | 3.555 | 0.001 |
| IV | 3.63 | 3.58 | 6.63 | 4.76 | 2.757 | 0.008 |
| V | 1.17 | 2.13 | 2.93 | 2.90 | 2.687 | 0.009 |

**Table 5: Statistical analysis of PRSS two groups of different visits**

| Visit I | PRSS | Study Group | | Control Group | | Z value | p value |
|---|---|---|---|---|---|---|---|
| | | Mean | SD | Mean | SD | | |
| I | ≤18 | 9.11 | 5.48 | 11.81 | 3.83 | 1.626 | 0.114 |
| | >18 | 28.84 | 4.46 | 24.42 | 3.32 | 2.930 | 0.007 |
| II | ≤18 | 4.58 | 2.91 | 8.62 | 3.66 | 3.510 | 0.001 |
| | >18 | 15.46 | 4.09 | 20.14 | 4.75 | 2.732 | 0.011 |
| III | ≤18 | 2.58 | 2.06 | 6.31 | 3.09 | 4.093 | <0.001 |
| | >18 | 9.61 | 3.99 | 15.14 | 4.27 | 3.465 | 0.002 |
| IV | ≤18 | 1.29 | 1.53 | 3.31 | 1.92 | 3.346 | 0.002 |
| | >18 | 6.69 | 3.17 | 10.42 | 4.14 | 2.614 | 0.015 |
| V | ≤18 | 0.05 | 0.24 | 1.00 | 1.67 | 2.296 | 0.029 |
| | >18 | 2.61 | 2.63 | 5.14 | 2.38 | 2.620 | 0.015 |

($p<0.01$) while to visit first, the difference was found insignificant ($p>0.05$) (table 4). We compared the PRSS score in ranges ≤18 and >18. Statistically insignificant differences were found when we compared PRSS score ≤18 on first visit ($p>0.05$) while PRSS >18, the difference was found statistically significant ($p<0.01$). On the second, third, fourth and fifth visits, it was found that PRSS score ≤18 and >18 were statistically significant difference ($p<0.05$) when compared to the study and control group (Table 5).

**DISCUSSION:**

Most of the recent clinical studies indicate that the incidence of the Disease peaks at the age of 10-29 years.[18] Hyatt[19] reported that the disease occurred commonly between 6 and 40 years and in our study, 91.3% of the cases belongs to this age group (12 and 40 years). Pityriasis rosea is not uncommon in children. In our study, cases of age 12 years and above were included. In the present study, we have adopted the improvement according to the Pityriasis Rosea Severity Score (PRSS). We had calculated the PRSS according to the two divided zones of had and trunk and extremities in the following parameters of erythema, scaling and induration. A significant difference was found between the study and control group on I, II, III and IV visit and II, III and V visit in head & trunk and extremities respectively. But patients in both groups were showing improvement in the severity of scaling on the head and trunk and

extremities with subsequent visits, but improvement in scaling on head & trunk and the extremities was more in the study group as compared to control group with progression of time. A similar study done by Rassai et al,[20] showed a reduction in erythema between 46.4% and 78.5% patients receiving acyclovir at the end of the first and second week, respectively, even though they used a lower dose of acyclovir (400 mg five times a day). Ehsani et al[21] compared the efficacy of acyclovir and erythromycin in pityriasis rosea. They had a similar follow-up assessment methodology as by Drago et al.[22]

The results of the present study showed in the study group significant improvement in PRSS at every visit as compared to control group. Pandhi et al[23] was found to be significant. In both groups, the fall in PRSS was significant ($p<0.05$) at 2 weeks, 4 weeks and 6 weeks. However, the change in PRSS was comparable between the two groups (P=0.121). In our study, mean PRSS in study group was 17.6711.12, 9.306.45, 5.634.63, 3.633.58 and 1.172.13 at first, second, third, fourth and fifth visits respectively, while in control group mean PRSS was 17.707.32, 14.007.16, 10.435.76, 6.634.76 and 2.932.90 on first, second, third, fourth and fifth visit respectively. On statistical analysis the difference was found significant at visit II ($p<0.05$), III, IV and V ($p<0.01$).

## CONCLUSION

In the present study total male to female ratio was 2:1. The onset was acute, seen in most of the cases in both the groups. The herald patch was seen in 40% of patients. The papulosquamous type of Pityriasis rosea was most common morphological types of both groups. The study group showed significant improvement in PRSS at every visit as compared to control group ($p<0.05$). Complete remission of the disease was seen in 19 patients in the study and 12 patients in the control group at the end of 6 weeks. We concluded that acyclovir 800 mg 5 times a day for 7 days helps in the reduction of duration of disease and morphological parameter of Pityriasis rosea in terms of erythema, scaling and induration as compared to the control group however a larger study should be performed to confirm these findings.

Conflict of Interest: None.
Source of Funding: Nil.

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