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A COMPARATIVE OBSERVATIONAL STUDY TO EVALUATE THE EFFICACY OF ACYCLOVIR VERSUS FAMCICLOVIR IN THE MANAGEMENT OF HERPES ZOSTER AT BRIMS TEACHING HOSPITAL, BIDAR

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KEYWORDS

Acyclovir, Famciclovir, Herpes Zoster.

ABSTRACT

BACKGROUND: Herpes zoster known as shingles is a viral disease caused by reactivation of varicella zoster virus which remains dormant in the ganglia by a previous varicella infection.
Comparison of efficacy of acyclovir v/s famciclovir helps clinician to choose a better anti-viral drug against herpes zoster for early healing of rash and relief of associated neuralgia and improve the compliance of he patient. **AIM / OBJECTIVES:** To evaluate the efficacy of acyclovir versus famciclovir in the management of herpes zoster at brims teaching hospital, bidar. **MATERIALS AND METHODS: Relevant data** was taken from patients with herpes zoster who presented within 72 hrs of onset of rash a total of 150 patients were enrolled in the study. They were randomized into two groups of 75 patients each group A-75 patients were given acyclovir 800 mg 5 times a day for 7 days. Group B-75 patients were given famciclovir 500 mg 3 times a day for 5 days, patients were called for follow up at 1st, 2nd, 3rd & 4th weeks. **RESULTS:** Healing of rash was quicker in famciclovir group with 53% healing by day 15 and 100% by day 29. In acyclovir group healing was 30% by day 15 and 73% by day 29. healing was slower and incomplete in acyclovir group compared to famciclovir group. When pain scores (measured by VAS) between the groups were compared a significant reduction was observed in famciclovir group ($p<0.005$). **CONCLUSION:** The result of the present study shows that administration of famciclovir 500 mg TID is effective and safe in management of herpes zoster. Furthermore, famciclovir has the convenience of 3 times a day dose compared to acyclovir which is 5 times daily dosing. This ensures better patient compliance and makes famciclovir a good drug for the management of herpes zoster. The reduction of pain was better with famciclovir than with acyclovir. Other than resolution of healing of rash which is faster with famciclovir than with acyclovir there are no differences in outcome of abnormal sensation and adverse effects with both the drugs.

INTRODUCTION

Herpes zoster is commonly known as shingles. It is a viral disease caused by reactivation of varicella-zoster virus which remains dormant in the sensory ganglia of the cranial nerve or the dorsal root ganglia after a previous varicella infection. Varicella is commonly known as chickenpox; it occurs in children while herpes zoster occurs in adults or the elderly.[1–3]

A systematic review published in 2014 reported an incidence of 3−5/1000-person years (PY) for herpes zoster in North America, Europe, and Asia- Pacific, with an increased incidence of 6 − 8/1000-person year at 60 years of age and 8 − 12/1000-person year at 80 years of age [4]

The main aims of treatment for herpes zoster are to decrease pain, induce quick healing, and avoid complications. Antiviral therapy is used for the treatment of herpes zoster as soon as a diagnosis is made, and it reduces the risk of post-herpetic neuralgia. Corticosteroids can help to control pain and eruptions. Other components of therapy include isolation of patient and local management of skin lesions. Isolation of patient is necessary to prevent nosocomial infections.

Antivirals such as acyclovir, famciclovir, and valacyclovir are used to reduce acute herpes zoster. These agents help in reducing pain, promote fast healing, and prevent post-herpetic neuralgia. Treatment with antiviral should be started within 72 hours of rash onset[5]. Famciclovir and acyclovir both interventions have been found to be obtained high rates of cure and had a similar time to full crusting of lesions. Famciclovir is non-inferior to acyclovir in a recent study[6].

Materials And Methods

Source of data

A comparative observational Study Was Conducted in dermatology outpatient department at BRIMS teaching hospital, bidar the study starts From January 2020 to July 2021.

Relevant data was collected personally by investigator.

Method of data Collection:

After obtaining approval and clearance from institutional ethical committee, 150 cases were included for the present study. Patients will be divided into two groups, each group consisting of 75 cases, group A--cases will be given tablet acyclovir 800 mg 5 times a day for 7 days.

Group B--consistent of 75 cases and will be given tablets famciclovir 500 mg thrice for 5 days. After obtaining the informed consent form the patient or guardians following data will be recorded form patient's medical records and prescription orders. Patients will be called for follow up at 1st and 2nd week.

Inclusion Criteria:

1. Patients aged between 18 to 60 Years of either gender
2. All patients attending dermatology diagnosed with herpes zoster.
3. Presentation within 72 Hours of onset of zoster rash.
4. Patients who are willing to give informed consent.

Exclusion Criteria:

1. Pregnant and nursing women.
2. in-patients.
3. Patients who are critically ill.

4. Patients with comorbid conditions like CHD, HIV etc.
5. Patients who do-not come for follow up.

150 cases were included for the present study. Patients will be divided into two groups, each group consisting of 75 cases, group A--cases will be given tablet ACYCLOVIR 800 mg 5 times a day for 7 days.

Group B--consistent of 75 cases and will be given tablets famciclovir 500 mg thrice for 5 days.

After obtaining the informed consent form the patient or guardians following data will be recorded form patient's medical records and prescription orders. Patients will be called for follow up at 1st and 2nd week.

Relevant data was taken from the patients. The data included hospital number, Name, age of the patient, dates of visiting OPD and history of presenting illness.

The proforma also enlisted general physical examination, vital signs and systemic Examination.

Severity of rash was graded depending on the number of lesions as mild *(*<25 lesions), moderate (25-50 lesions) and severe (>50 lesions). To assess the effect of the drugs on healing of the rash, the proportion of patients having completely healed rash and occurrence of any new lesion formation was recorded at each visit. Presence of complications of zoster, if any was recorded.

Assessment of intensity of pain was done using visual analog scale (VAS) which is numerical rating scale marked from 0 to 10 in increasing order of severity. a score of '0' was described as no pain and '10' as worst possible pain. The patients were instructed to use the scale form left to right and place a marl on the scale depending on the severity of pain perceived by them.

Patients with intolerable pain were prescribed analgesics or pregabalin (PGB) the reduction in mean pain scores between and within the groups was analyzed.

Statistical analysis:

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of Frequencies and proportions. **Chi-square test** was used as test of significance for qualitative data.

Independent t test was used as test of significance to identify the mean difference between two quantitative variables.

P value (Probability that the result is true) of <0.05 was considered as statistically significant after assuming all the rules of statistical tests.

RESULTS:

In Acyclovir group, majority of them were in the age group 31 to 40 years (28%) and in Famciclovir group, majority of them were in the age group 41 to 50 years (30.7%). There was no significant difference in age distribution between two groups.

In Acyclovir group, 73.3% were males and 26.7% were females and in Famciclovir group, 78.67% were males and 21.33% were females. There was no significant difference in gender distribution between two groups.

The dermatome distribution was similar in both the groups as shown in fig 1.
Healing of rash was quicker in famciclovir group with 53% healing by day 15 and 100% by day 29. In acyclovir group healing was 30% by day 15 and 73% by day 29. healing was slower and incomplete in acyclovir group compared to famciclovir group, as shown in table 1.
In Acyclovir group, mean VAS score on Day 0 was 6.49 ± 1.38, on Day 3 was 4.36 ± 1.16, on Day 8 was 2.43 ± 1.63 and on Day 15 was 1.49 ± 1.62. In Famciclovir group mean VAS score on Day 0 was 6.71 ± 1.32, on Day 3 was 4.61 ± 1.29, on Day 8 was 2.59 ± 1.38 and on Day 15 was 1.65 ± 1.43. There was no significant difference in VAS score between two groups from Day 0 to Day 15, as shown in table 2.

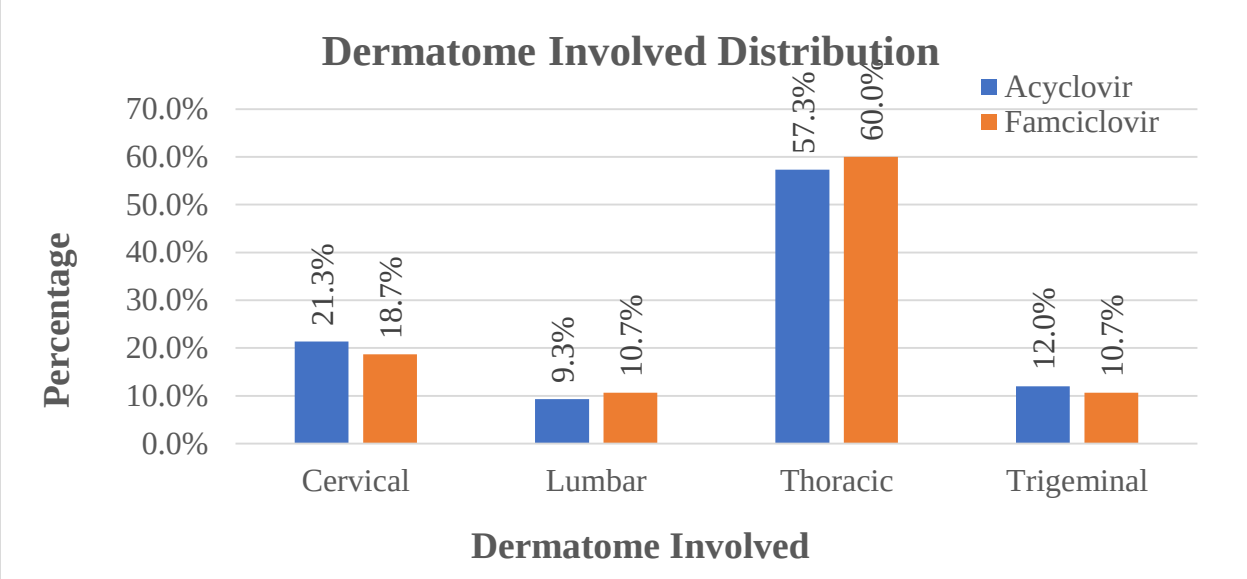

Fig 1: Bar diagram showing Dermatome Involved Distribution between two groups

Table 1: COMPARISON OF HEALING OF RASH BETWEEN GROUPS.

Day	**Acyclovir**		**Famciclovir**		**P value****
	Number	**%**	**Number**	**%**	
3	0	0%	0	0%	----
15	23	30%	40	53%	0.233
29	55	73%	75	100%	0.732

*p <0.05 => statistical significance.
**Chi square Test.

Table 2 : Mean VAS Score comparison between two groups

VAS Score	Group				p value
	Acyclovir		Famciclovir		
	Mean	SD	Mean	SD	
Day-0	6.49	1.38	6.71	1.32	0.340

Day-3	4.36	1.16	4.61	1.29	0.210
Day-8	2.43	1.63	2.59	1.38	0.530
Day-15	1.49	1.62	1.65	1.43	0.520

DISCUSSION

Acute herpes zoster is a painful debilitating condition .it occurs due to reactivation of varicella zoster virus (VZV) from a latent infection of dorsal sensory or cranial nerve ganglia. Declining cell mediated immunity as a result of aging, immunosuppressive illness and immunosuppressive agents increase the risk of Zoster.[7]

The pain of herpes zoster is the principal reason most patient seek medical attention.[8]

Antiviral therapy has been shown to decrease duration of herpes zoster and severity of pain associated with rash. Hence the use of antiviral therapy may have a favorable effect on acute pain and PHN.

The oral nucleoside analogue, acyclovir, is widely used in the treatment of herpes zoster. Famciclovir decrease the percentage of patients with PHN[9] and also cause faster resolution /healing of rash.

In the present study, we have compared the efficacy of acyclovir 800 mg 5 times a day for 5 days and famciclovir 500mg 3 times a day for 5 days in the treatment of herpes zoster. The parameters assessed were pain scores using visual analogue scale, presence of abnormal sensation like pruritis allodynia, paresthesias, rash healing and new lesion formation.

1) In the study majority of the patients were in age group between 31-50 years and majority of them were males with 73.33% in acyclovir group and 73.67% in famciclovir group

2) Most common dermatome involved was thoracic segment in both the groups, being 57.3% in acyclovir group and 60.0% in famciclovir group.

3)Famciclovir provided a faster resolution of pain with 9 (26.78%) patient becoming pain free by day 8 as compared to acyclovir 5 (13.3%) patients becoming pain free which was not statistically significant P=0.196. By day 29 in acyclovir group 37 patients (50 %) and in famciclovir group 65 patients (86 %) were totally pain free which statistically significant (P<0.003). Beutner et al. Demonstrated that famciclovir significantly shortened the duration of zoster associated pain compared to acyclovir[9]

4) On day 15 in acyclovir group 30% and famciclovir group 53% had completely healed rash. On day 29 in acyclovir 73% and in famciclovir group 100 % patients had completely healed rash, this is in accordance with studies of Beutner et al[9], Tyring SK et al[10], Lin WR et al[11.] Healing was not related to the severity of rash at base line as all the patients had healed rash at the end of the study.

3) In the present study, famciclovir caused healing of rash earlier than acyclovir and rapid resolution of zoster associated pain than acyclovir. Since greater severity of pain is an important risk factor for the development of PHN, famciclovir had a favorable outcome

CONCLUSION:

The result of the present study shows that administration of famciclovir 500 mg TID is effective and safe in management of herpes zoster. Furthermore, famciclovir has the convenience of 3 times a day dose compared to acyclovir which is 5 times daily dosing. This ensures better patient compliance and makes famciclovir a good drug for the management of herpes zoster.

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