FAMCICLOVIR PLUS PREDNISOLONE IN COMPARISON WITH PREDNISOLONE ALONE IN THE TREATMENT OF BELL’S PALSY

Mohd Umar Shah¹, Omar Mohammad Shafi² and Arshed Ali³

1. Lecturer Ent Department, Govt. Medical College Hospital, Srinagar, Kashmir.
2. Senior Resident At Ent Department, Govt. Medical College Hospital, Srinagar, Kashmir.
3. Senior Resident At Ent Department Skims, Medical College Hospital, Srinagar, Kashmir.

Abstract

Bell’s palsy is the most common cause of acute onset unilateral peripheral facial weakness. Bell’s palsy treatment Comparison of Famciclovir plus Prednisolone with Prednisolone Alone was the aim of the current study. The present study was a time bound prospective study conducted in the department of otorhinolaryngology, Govt Medical College Srinagar during the period from March 2018 to March 2020 for 24 months. Total 60 eligible patients presenting with clinical features compatible with Bell’s palsy were included in the study. Informed consent was taken from all patients. The patients were divided into two groups of 30 patients in each. Group I received Famciclovir 500 mg thrice a day for seven days plus prednisolone in a tapering dosage schedule (60 mg daily for initial 5 days, tapered by 10 mg daily over next 5 days). Group II received 10 days of oral prednisolone of similar schedule. Outcome was assessed at 3 months with House–Brackman scale and the patients were followed up to a period of three months.

Results: In this study, the total number of patients was 60 patients. The 37 (61.67%) patient were females and 23 (38.33%) patient were males showing clearly a predominance of females. The peak incidence in the group 21-40 years accounting for 23 (38.33%) of the patients. The incidence of Bell’s palsy shows a decline below the age of 20 years 13 (21.67%) patients, and above the age of 61 years, 6 (10%) patients. From the total number of patients the study 36 (60%) patients were affected on the right side of the face and 24 (40%) on the left side of the face. The rate of complete recovery in our study was 21 (70%) patients who received Famciclovir plus prednisolone and in those who received prednisolone alone it was 18 (60%) patients.

Conclusion: Intreatment of Bell’s palsy, combination therapy like famciclovir and prednisolone is more effective than prednisolone alone and can result in more complete recovery of facial weakness.

Introduction:

Facial nerve palsy (FNP) is a common problem in the emergency department that has a serious impact on patients’ quality of life. It is estimated that 15–40 per 100 000 adults are affected annually by FNP. Bell’s palsy (BP) is the...
The most common cause of acute onset unilateral peripheral facial weakness. The incidence of Bell’s palsy is 20-30 cases for 100,000² and this constitutes 60-70% of all cases of unilateral peripheral facial palsy. Bell’s palsy (BP) represents more than 70% of peripheral acute idiopathic facial paresis, widespread all over the world.³ Although generally unilateral, it is described in some rare cases involving both facial nerves.⁴ The cause of the paresis still remain unknown even if the viral etiology has been discussed by several authors, and herpes virus seems to be the most plausible infective agent determining inflammation and swelling of the nerve with subsequent blockage of the neural activity.⁵,⁶ The natural history of BP is encouraging for the patients since a total recovery of facial function is expected in 70–85% of the patients, and a higher percentage of recovery is achieved if corticosteroid therapy is administered and early physical rehabilitation is performed in severe grades of paresis.⁷

The facial nerve (FN) is mainly a motor nerve and provides innervation to the mimic muscles of the ipsilateral half of the face; it also innervates the posterior belly of the digastric muscle, the stapedius muscle, and the stylohyoid muscle. The sensory and parasympathetic functions of FN are carried by fibers that constitute the nervus intermedius (NI). The NI, also known as Wrisberg nerve or intermediate nerve, is commonly described as a root of the FN containing sensory and parasympathetic fibers, although for some authors it is considered, since the first anatomical studies in the 18th century, as an independent nerve.¹¹-¹⁴

Many treatment options have been tried with varying results. About pathogenesis it is contemplated that Bell’s palsy occurs as an inflammatory reaction to viral infection. Though expected to respond to antiviral, their role is still controversial.¹⁵-¹⁸ Corticosteroids, most widely used and time tested treatment option,¹⁸-¹⁹ prednisolone and acyclovir are also widely used, famciclovir in combination with steroids also tried.

Famciclovir is a guanine analogue antiviral drug used for the treatment of various herpes virus infections; it is a prodrug form of penciclovir with improved oral bioavailability. However, their effectiveness has been controversial.

Materials & Methods:-
The present study was a time bound prospective study conducted in the department of otorhinolaryngology, Govt Medical College Srinagar during the period from March 2018 to March 2020 for 24 months. Total 60 eligible patients presenting with clinical features compatible with Bell’s palsy were included in the study. Informed consent was taken from all patients and prior permission from local ethical committee was also attained.

Inclusion criteria:
Patients with unilateral facial nerve weakness of no identifiable cause (e.g., a diagnosis of Bell’s palsy). They were recruited mostly through their family doctors (75%) but also through emergency rooms and dental doctors, and were referred to otorhinolaryngologists at hospital within 72 hours. The degree of initial facial paralysis was moderate to severe, based on the House–Brackmann scale, a widely used system for grading recovery from facial nerve paralysis.

Exclusion criteria:
Exclusion criteria included pregnancy, breastfeeding, uncontrolled diabetes (Hb A1c >8.0%), peptic ulcer disease, suppurative otitis media, multiple sclerosis, systemic infection, sarcoid or other rare disorder, and inability to give informed consent.

The patients were divided into two groups of 30 patients in each. Group I received Famciclovir 500 mg thrice a day for seven days plus prednisolone in a tapering dosage schedule (60 mg daily for initial 5 days, tapered by 10 mg daily over next 5 days). Group II received 10 days of oral prednisolone of similar schedule. Outcome was assessed at 3 months with House–Brackmann scale and the patients were followed up to a period of three months.

The House Brackman classification of facial nerve function

| Grade | Description | Clinical signs |
|-------|-------------|----------------|
| I.    | Normal      | Normal symmetrical function |
| II.   | Mild dysfunction | Slight weakness noticeable only on close inspection. Complete eye closure with minimal effort. Slight asymmetry of smile with maximal effort. Synkinesis barely noticeable; contracture or spasm is absent |
III. Moderate dysfunction
Obvious weakness, but not disfiguring. May not be able to lift eyebrow. Complete eye closure and asymmetric mouth movement with maximal effort; obvious but not disfiguring synkinesis.

IV. Moderate severe dysfunction
Obvious disfiguring weakness; inability to lift brow; incomplete eye closure and asymmetry of mouth with maximal effort; severe synkinesis.

V. Severe dysfunction
Motion barely perceptible; incomplete eye closure, slight movement of corner of mouth; synkinesis.

VI. Total paralysis
No movement; loss of tone; nosynkinesis, contracture or spasm.

The primary outcome was assessed using the House–Brackmann grading system for facial nerve function, which assigns patients to 1 of 6 categories.

Based on the House–Brackmann criteria, the response to treatment were graded as complete recovery (grade 1), partial recovery (grade 2–5), and no response (grade 6) at 3 months.

**Results:**
In this study, the total number of patients was 60 patients. The 37 (61.67%) patients were females and 23 (38.33%) were males showing a clear predominance of females (Table 1). The peak incidence in the group 21-40 years accounting for 23 (38.33%) of the patients. The incidence of Bell’s palsy shows a decline below the age of 20 years 13 (21.67%) patients, and above the age of 61 years, 6 (10%) patients.

**Table 1:** Distribution of Bell’s palsy according to Gender distribution.

| Gender | Number of patients | Percent of total patients |
|--------|--------------------|--------------------------|
| Female | 37                 | 61.67                    |
| Male   | 23                 | 38.33                    |
| Total  | 60                 | 100                      |

This study demonstrated convincingly the influence of age on the incidence of Bell’s palsy (Table 2).

| Age at presentation | Number of patients | Percent of total patients |
|---------------------|--------------------|--------------------------|
| 0-20                | 13                 | 21.67                    |
| 21-40               | 23                 | 38.33                    |
| 41-60               | 18                 | 30.00                    |
| 61-80               | 6                  | 10.00                    |
| Total               | 60                 | 100                      |

**Table 2:** Distribution of Bell’s palsy according to age group.

From the total number of patients the study 36 (60%) patients were affected on the right side of the face and 24 (40%) on the left side of the face. The study showed that the right side is predominantly affected, which was illustrated in (Table 3).

**Table 3:** Distribution of Bell’s palsy according to site.

| Site | Number of patients | Percent of total patients |
|------|--------------------|--------------------------|
| Right| 36                 | 60.00                    |
| Left | 24                 | 40.00                    |
| Total| 60                 | 100                      |
The rate of complete recovery in our study was 21 (70%) patients who received Famciclovir plus prednisolone and in those who received prednisolone alone it was 18 (60%) patients (Table 4).

**Table 4:** Treatment results. Recovery pattern at 3 month.

| Recovery extent   | Famciclovir plus prednisolone (Group I) | Prednisolone alone (Group II) |
|-------------------|----------------------------------------|--------------------------------|
| Number of patients| 21                                     | 18                             |
| Percent of total patients | 70%                                   | 60.00%                         |
| Partial           | 9                                      | 30                             |
| No response       | 0                                      | 0.00%                          |
| Total             | 30                                     | 30                             |
| Percent of total patients | 100%                                  | 100%                           |

**Discussion:**

In this study, the total number of patients were 60 patients. The 37 (61.67%) patient were females and 23 (38.33%) patient were males showing clearly a predominance of females. Similar figures were reported by Valenca et al., from Portugal where the female gender comprised 66.7% of the cases. Our finding in this respect are also in agreement with the figures shown by Goncalves et al., in Brazil, who reported a predominance of female mounting up to 77.71% of the cases.

Peak incidence in the group 21-40 years accounted for 23 (38.33%) of the patients. The incidence of Bell’s palsy shows a decline below the age of 20 years 13 (21.67%) patients, and above the age of 61 years 6 (10%) patients. This study demonstrated convincingly the influence of age on the incidence of Bell’s palsy. Pietersen from Denmark reported similar results, and found the incidence of Bell’s palsy reaches a maximum between the ages of 15 and 45 years. The author also found that Bell’s palsy is significantly less below the age of 15 years as well as above the age of 60 years. Goncalves et al., from Brazil showed similar findings and that the incidence of Bell’s palsy is high in the age group bracket 31-60 years and low above the age of 60 years.

From the total number of patients the study 36 (60%) patients were affected on the right side of the face and 24 (40%) on the left side of the face. The study showed that the right side is predominantly affected, which was illustrated in Table 3. Because the sample size is small we can’t assume this result representing the actual situation. Further investigation is needed to verify or negate this observation. Nevertheless, our findings are similar to those reported by Savettieri et al., from Italy who found that the right side was affected in 63% of their cases.

Consensus is evolving on how to treat Bell’s palsy. Rate of complete recovery in our study was 70% in in patients who received Famciclovir plus prednisolone and in those who received prednisolone alone it was 60%. Many studies have shown higher performance and greater improvement rate of combination therapy of prednisolone and acyclovir compared with prednisolone alone. One study also demonstrated that patients with Bell’s palsy who were treated with prednisolone and Famciclovir performed better.

Comparison of acyclovir and famiciclovir in the treatment of Bell’s palsy is not clear. Ho Joo King et al in 2016 compared recovery outcomes in patients with Bell’s palsy treated with acyclovir and famciclovir. Patients were given prednisolone plus either acyclovir (n = 457) or famciclovir (n = 245). House-Brackmann scale was used for assessment, according to initial severity of disease and underlying disease. The overall recovery rate tended to be higher in the famciclovir than in the acyclovir group. The rate of recovery in patients with initially severe facial palsy (grades V and VI) was significantly higher in the famciclovir than in the acyclovir group (p = 0.01), whereas the rates of recovery in patients with initially moderate palsy (grades III–IV) were similar in the two groups. Treatment with steroid plus famciclovir was more effective than treatment with steroid plus acyclovir in patients with severe facial palsy. They suggested that famciclovir may be the antiviral agent of choice in the treatment of patients with severe facial palsy.
Hato et al. reported that the recovery rate in patients treated with valacyclovir and prednisolone was higher than for patients treated with prednisolone alone. Giving prednisolone and famciclovir together was more effective than prednisolone alone in the treatment of Bell’s palsy in a study and a significant number of patients improved by adding famciclovir. Adding an antiviral to the treatment of Bell’s palsy looks prudent because of HSV involvement in facial nerve inflammation. Antiviruses can eradicate the virus while corticosteroid reduced nerve swelling. Studies have shown that the effect of corticosteroids in the treatment of Bell’s palsy is clear though role of antivirals is having only weak evidence.

In some cases of Bell’s palsy, probably combination therapy with famciclovir is more effective than prednisolone alone and results in more complete recovery of facial weakness.

Conclusion:-

In treatment of Bell’s palsy, combination therapy like famciclovir and prednisolone is more effective than prednisolone alone and can result in more complete recovery of facial weakness. However, larger randomized control trials are required for a better understanding of the disease and its treatment. Funding issues/confounding factors; none

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