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Early Vs Late Inititaion Of Steroid In Management Of Bell's Palsy

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Abstract
Background:*Bell's palsy, an idiopathic facial palsy is the most common cause of an acute unilateral peripheral facial weakness.It is well known that the standard treatment for Bell's palsy are steroids. The complete recovery rate for Bell's palsy after onset of prednisolone treatment within 72 hours is already known since decades, but there are no clear data on the efficacy of prednisolone started later than 72 hour. As many of the patients present beyond 72 hours of onset of symptoms; so the aim of this study is to evaluate the role of oralsteroids after 72 hours of onset of symptom and to compare the outcome between the subsets of patients who were started early(<72 hours) and those who were started late(>72 hours) on oral steroids.*
Method: *This is a prospective analytical study design done in the period between November2021 to April 2022 in the department of ENTat RIMS Ranchi. The study comprises of two groups ie;52 patients were selected in the duration of 6 months. Group A comprises of 28 patients who were started steroids within 72 hours; whereas Group B were those receiving steroids beyond this time cut off. Group B (24 patients) were those who presented late ie; >72 hours to the OPD and thus started late on steroid. The study compares difference in the outcome between both groups.The primary outcome of interest was incomplete recovery and residual facial weakness.The other outcomes were persistent sequelae, development of motor synkinesis or autonomic dysfunction i.e. hemifacial spasmetc on follow- up.*
Result:*On follow up of 42 days, 89.2% of patients of Group A(early steroid initiation) had a full recovery; whilst only 37.5% of Group B patients showed recovery. Also, on 3 months followup, only 7.14% Group A patients showed incomplete residual recovery while 58.33% of Group B patients showedincomplete recovery. There was only one case ie;3.57% of motor synkinesis in Group A patients; while about 25% cases in Group B patients presented with features of motor synkinesis. Hemifacial spasm as a sequelae was found only in one patient ie; 3.57% in Group A, while it was noted in about 29.16% in Group B cases.*
Conclusion:*This study clearly shows that the outcomes ie; both primary and secondary were better in those patients who were started steroids within 72 hours; while those were poor in those who presented late and thus steroids started late ie; beyond 72 hour. So, a cut off of 72 hours can be justified and clinically used in the management of Bell palsy.*
Keywords:*Bell palsy, steroid, time cut-off*

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I. Background:

Bell palsy is named after Scottish surgeon Charles Bell (1774–1842), who first described the condition[1]**.** It is an acute peripheral facial weakness of unknown cause,and is the most common cause of unilateral facial nerve paralysis (70%).[2] It occurs in 1 to 4 per 10,000 people per year.[2] About 1.5% of people are affected at some point in their lives. Males and females are affected equally.Most patients recover completely, with treatment, but 20% to 30% can have permanent facial weakness. In most cases, the weakness is temporary and significantly improves over weeks.[3] They may include muscle twitching, weakness, or total loss of the facial muscle to move, and in rare cases can involve both sides of the face. Other symptoms include eyelid droop,change in taste, and pain around the ear.

Steroids have been shown to be effective at improving recovery in Bell's palsy via anti inflammatory action, while antivirals have not.[4] They are known improve recovery at 3 months and are thus recommended. Early treatment (within 3 days after the onset) is associated with a 14% greater probability of recovery.[5]

The study evaluate the outcome of the patients who were started on steroid treatment after 72 hour of onset of symptoms.

II. Material And Methods:

This prospective analytical study was conducted during the period ofNovember 2021to April 2022in RIMS Ranchi, in the selected groups of patients (n=52)who visited ENT OPD with Bell palsy in 6 months of duration of study.

The *inclusion* criterias were – Age 18-70 year, fair general condition,diagnosis of Bell palsy and maximum cutoff of onset upto 1 week.

*Exclusion criterias*were- Diabetes mellitus, Herpes associated palsy, Ramsey Hunt syndrome, Tumour associated palsy and history of peptic ulcer disease.

Patients (n=52) were divided into 2 groups. Group A comprises of 28 patients who were started steroids within 72 hours of onset; whereas Group B were those receiving steroids beyond this time cut off. Group B (24 patients) were those who presented late ie; >72 hours to the OPD and thus started late on steroid. Dose of prednisolone were given as 1 mg/kg or 60 mg at max in 3 divided doses, along with a proton pump inhibitor. This study compares the difference in the outcome between both the groups.The primary outcome of interest was incomplete recovery and residual facial weakness. The other outcomes were persistent sequelae, development of motor synkinesis and autonomic dysfunction ie; hemifacial spasmon follow- up upto 3 months. Data were collected and analysed in the form of both primary and secondary outcome. Both the groups of patients were compared on the basis of both the outcomes.

III. Result:

The data collected on the basis of primary outcome ie; incomplete recovery on 1st follow up (42 days) and 2nd follow up (3 months) and secondary outcomes ie; persistent disease activity, motor synkinesis and hemifacial spasm were noted and compared in both the groups.The result of primary outcome were described as,

- 89.2% of the Group A cases ie; 25/28 patients showed a fair recovery at a follow up of 21 days. And 98% of the cases ie;27/28 patients showed full recovery on a follow up of 3 months. Only 7.14 %ie; 2/28 of the patients were incompletely recovered on 3 months follow up.

- Only 37.5% of the Group B cases ie; 9/24 patients showed a fair recovery on 42 days follow up, an rest 58.3% of the cases ie; 15/24 patients showed incomplete recovery on 3 months follow up.

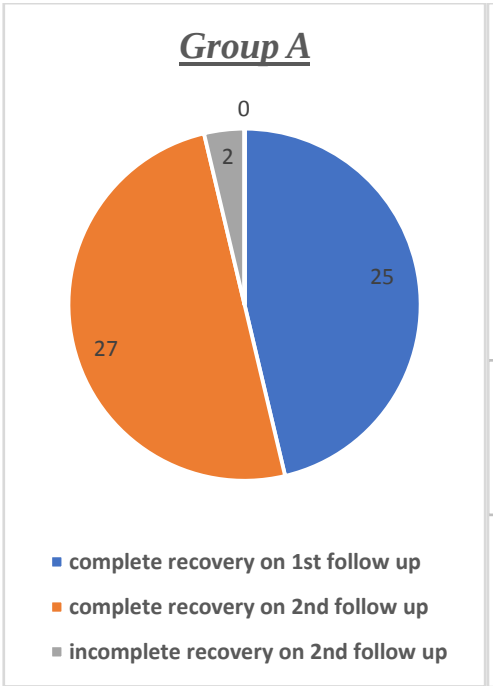


Fig 1.showing recovery of Group A cases

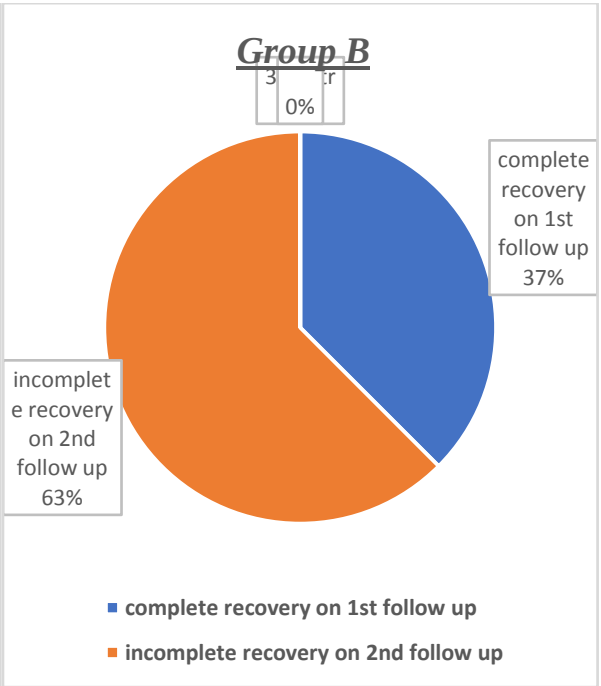
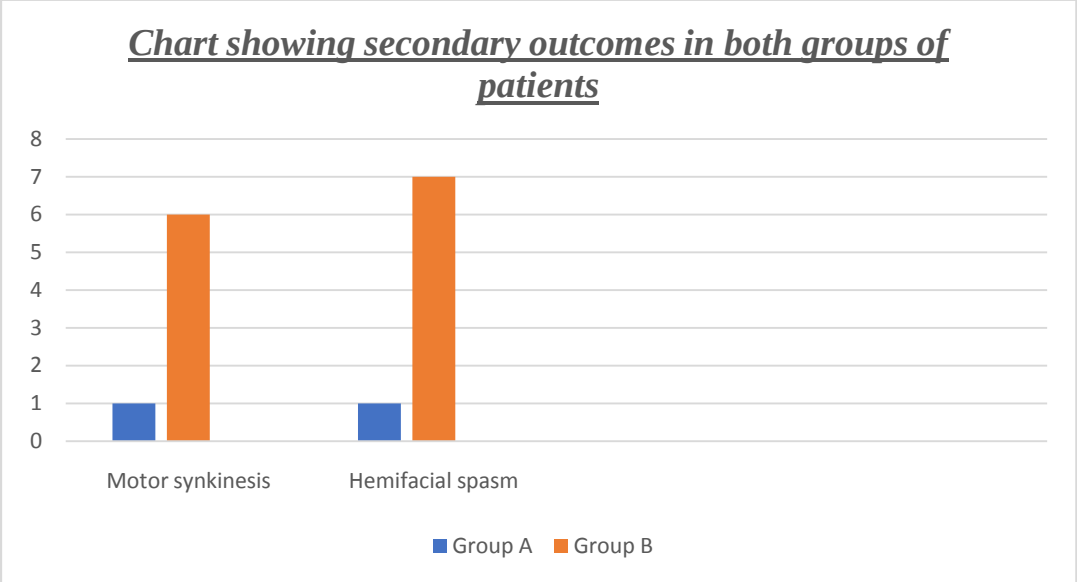


Fig 2.showing recovery of Group B cases

The results of secondary outcomes are described below-

1. In Group A, only 3.57% of cases ie;1/28 patient reported some sort of motor synkinesis, while in Group B, about 25% of cases ie; 6/24 patients were diagnosed with motor synkinesis, most common being pathological smile; on subsequent follow ups.
2. The cases of hemifacial spasm was reported only in 1/28 case ie; 3.57% of Group A patients on follow up; while in 29.1% of cases ie; 7/24 patients reported hemifacial spasm in subsequent follow ups.



IV. Discussion:

Bell's palsy is the result of a malfunction of the facial nerve. The paralysis is of the infranuclear/lower motor neuron type.

It is thought that as a result of inflammation of the facial nerve, pressure is produced on the nerve where it exits the skull within its bony canal or the stylomastoid foramen, blocking the transmission of neural signals or damaging the nerve. Most of the cases are idiopathic. Other causes include HSV-1 infection, tumour, meningitis, stroke, diabetes mellitus, head trauma and HIV. Although the mainstay of management are steroids, other modalities include antivirals (although not proven),physiotherapy,anti inflammatory drugs and acupuncture Corticosteroids are thought to decrease inflammation of the facial nerve during an episode of facial paralysis. There are seven completed randomised controlled trials in the literature comparing corticosteroids with control, and describing the role of steroid in the management of the palsy. Those studies were Austin 1993; Engström 2008; Lagalla 2002; May 1976; Sullivan 2007; Taverner 1954; Unuvar 1999

Austin et al conducted the study reported final outcomes on 53 participants at six months after recovery. The primary outcome was time to recovery, for which trial authors found no statistically significant difference between the two groups. Secondary outcomes included facial paralysis grade at onset versus grade at recovery. There was a statistically significant difference in incomplete recovery rates favouring the treatment group.[6]

Rest all researchers favoured the use of steroid in Bell palsy with a significant positive outcome.

The study conducted by May et al was the only study that stated that there was no benefit from corticosteroids for the recovery of Bell's palsy (RR 1.16, 95% CI 0.57 to 2.36**).**[7]

Similar to the findings of abovementioned trials, this study also showed a favourable outcome of steroids in the management of Bell palsy if given within 72 hours of onset of symptoms.

In this study, the rate of full recovery was 89.2% on 42 days follow up and 98% on 3 month follow up in the Group A patients in which early initiation of steroid was done. The rate of full recovery on 42 days follow up in Group B cases were only 37.5%, and on 3 months were 58.3%.

Also, the residualsequelae like synkinesis was only 3.75% in Group A while it was 25% in group B. Hemifacial spasm was only 3.75% in Group A and was 29.15% in Group B.

These findings favour the use of Steroid on an early basis within 72 hours of onset of symptoms, and there was a significant differenceseen in the outcome between both the groups.

V. Conclusion:

Early initiation of oral steroid (within 72 hour) of symptom onset had a favourable positive outcome in the recovery of Bell palsy; and there is a significant differences in both primary and secondary outcomes in the groups of early vs late steroid initiation. This study well concluded that the cut off time of 72 hours can be clinically used in the management of Bell palsy.

References:

[1]. Cantarella, Giovanna; Mazzola, Riccardo F. (2021-07-27). "The Bicentenary of Bell's Description of the Neuroanatomical Basis of Facial Paralysis: Historical Remarks". *Otolaryngology–Head and Neck Surgery*: doi:10.1177/01945998211032172. PMID 34314273. S2CID 236473244.

[2]. Fuller G, Morgan C (December 2016). "Bell's palsy syndrome: mimics and chameleons". *Practical Neurology*. 16 (6): 439–44. doi:10.1136/practneurol-2016-001383. PMID 27034243. S2CID 4480197.

[3]. Bell's palsy - Symptoms and causes" *Mayo Clinic*. Retrieved 2022-03-22.

[4]. Baugh RF, Basura GJ, Ishii LE, Schwartz SR, Drumheller CM, Burkholder R, et al. (November 2013). "Clinical practice guideline: Bell's Palsy executive summary". *Otolaryngology–Head and Neck Surgery*. 149 (5): 656–63. doi:10.1177/0194599813506835. PMID 24190889. S2CID 25468987.

[5]. Gronseth GS, Paduga R (November 2012). "Evidence-based guideline update: steroids and antivirals for Bell palsy: report of the Guideline Development Subcommittee of the American Academy of Neurology". *Neurology*. 79 (22): 2209–13. doi:10.1212/WNL.0b013e318275978c. PMID 23136264.

[6]. Austin JR, Peskind SP, Austin SG, Rice DH. Idiopathic facial nerve paralysis: a randomized double blind controlled study of placebo versus prednisone. *Laryngoscope* 1993;103(12):1326- 33. [PUBMED: 8246650]

[7]. May M, Wette R, Hardin WB, Sullivan J. The use of steroids in Bell's palsy: a prospective controlled study. *Laryngoscope* 1976;86(8):1111- 22. [PUBMED: 781439]

Naodeep kumar, et. al. "Early Vs Late Inititaion Of Steroid In Management Of Bell's Palsy." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(08), 2022, pp. 56-59.