

Risk of Bell's Palsy in the patients with Migraine

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ABSTRACT

Aim: To assess the relation between the migraine and bell's palsy.

Study Design: Prospective study.

Place and Time of Study: Department of Physiotherapy, Department of Neurology. Jinnah Hospital, Lahore. From January-May 2019.

Methods: The data was collected from the different hospitals. 90 patients were selected. The patients were asked about the symptoms which covers all the possible happenings with the patient of migraine and they were also assessed about the presence of Bell's palsy. A questionnaire was used and interviews were conducted.

Result: A total of 90 patients were taken 39 were male 51 were female. 72 patients had headache 18 were of strain type cerebral pain in 72 headache patients 58 were of bell's paralysis and 14 were normal only with migraine. In 18 pressure sort cerebral pain patients just 3 were of Bell's paralysis and remaining 15 never had Bell's paralysis. So in the wake of performing Chi-square test, with p value=0.0000 it affirmed that there is relationship between Bell's paralysis and headache. But due to unknown mechanism of migraine and Bell's palsy this study will recommend further evaluation.

Conclusions: In this investigation an immediate relationship between the headache and the Bell's paralysis was surveyed. In any case, there is relationship between the headache and the Bell's paralysis. However, further assessment is required to know the instrument through which the headache turns into the danger factor of Bell's paralysis.

Keywords: Migraine, Bell's palsy, Headache, cerebral pain.

INTRODUCTION

Migraine is a perplexing issue portrayed by repetitive scenes of cerebral pain, and is a standout amongst the most predominant and handicapping neurological issue. A key element of headache is that different components can trigger an assault, and this marvel gives an exceptional chance to examine illness systems by tentatively initiating headache assaults. In this Review, we outline the current test models of headache in people, including those that adventure nitric oxide, histamine, neuropeptide and prostaglandin flagging¹.

Bell's paralysis, likewise called idiopathic facial loss of motion, is characterized as an intense beginning, separated, one-sided, lower engine neuron facial weakness. The hidden pathophysiology saw in after death instances of Bell's paralysis is vascular distension, aggravation and oedema with ischemia of the facial nerve. The etiology stays vague. Various causes have been proposed including viral, fiery, invulnerable framework and vascular. reactivation of herpes simplex contamination or herpes zoster disease from the geniculate ganglion is suspected to be the most significant reason².

Migraine is an essential cerebral pain described by repetitive headache assaults activated by different components. As much as 10% of the worldwide populace is thought to encounter headache cerebral pains. Messes of the central tangible framework and safe system, similarly as disturbance, genetic characteristics, and vascular ischemia have all been proposed as potential supporters of

headache. Albeit past examinations pondered that migraine cerebral torments were enacted by the enlarging of cerebral vessels, late evidence support that cerebral pain attacks can occur in association with cardiovascular disrupting impacts without vasodilation. Various examinations have declared a risk of ischemic stroke in cerebral pain patients. These perplexing etiologies and associations with vascular ischemia may give an association among cerebral pain and Bell loss of motion³.

Vascular ischemia remains a possible etiology of Bell paralysis and a continuous report perceived facial blood perfusion in patients with migraine. This examination was coordinated to choose if headache is connected with Bell loss of motion. Past examinations demonstrated that the threat of Bell's loss of motion is around increased in patients with headache differentiated and facilitated subjects. This relationship was not pretentious by gender, headache subtype, or other danger factors for Bell's loss of motion. There are a couple of controls. The finding of Bell's loss of motion is basically clinical and compelled clinical information could be gotten from the database. All patients tried the examination are with dynamic cerebral pain, provoking the under depiction of individuals with non-dynamic headache⁴.

Principle, they are using a sensory system authority broke down cerebral pain patients as test. This model might be obligated to Berkson tendency, i.e., migraine calm with neurological discourse will undoubtedly be resolved to have Bell's palsy. A couple of frameworks may underlie the relationship among migraine and Bell's palsy. Neuritis or demyelination after viral ailment/reactivation remains the most a significant part of the time recognized guessed

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pathogenesis of Bell's paralysis⁵.

During cerebral pain assaults, trigeminovascular system commencement triggers regional neurological peptide discharge. Intermittent cerebral pain attacks result in neurogenic bothering of close-by cranial nerves, and may slant the facial nerve to demyelination after viral sully. Moreover, Bell's paralysis can be credited to ischemia on occasion, which is reflected in its extended recurrence in more seasoned subjects and those with vascular risk factors, for instance, hypertension and diabetes. Migraine is connected with various vascular messes and uneven facial blood perfusion, which raises the uncertainty of ischemic mono neuropathy of the facial nerve⁶.

Of note, migraine with air is connected with hypertension, negative cholesterol profiles, and higher Framingham risk scores; in any case, the HRs remained similar in all cerebral pain subgroups in the present examination. As such, cerebral pain all things considered, rather than certain comorbidities, might be connected with coming about progress of Bell loss of motion⁷.

Migraine was found to gather hazard of Bell's paralysis. This all-inclusive hazard in cerebral torment patients was clear. Scarcely any past examinations have revealed a relationship between headache cerebral torments and Bell'spalsy. The subtleties of the pathophysiology of Bell paralysis have not been completely relaxed up. Vascular ischemia, immunologic disseminates, overpowering ailments, and mental issue have all been recommended to be associated with Bell palsy, Thus, headache cerebral torments could in like way add to different bits of the pathophysiologic mechanism(s) actuating bell's palsy. The direct neural impacts from the trigeminal nerve to the facial nerve could add to the danger of facial loss of movement in headache patients. A case was spoken to of a 32-year-more seasoned individual with headache who experienced repetitive facial palsy^{8,9,10}.

MATERIALS AND METHODS

Study design: The data of this observational study was collected from Jinnah Hospital Lahore, Gulab Devi Hospital and Mayo Hospital Lahore during a period of three months from January to May 2019. Sample Technique used was convenient sampling

Inclusion Criteria:

- Patients with migraine
- Migraine with aura
- Migraine without aura
- Bell's palsy patients

Exclusion Criteria:

- Cervical radiculopathy
- Stroke
- Other systemic diseases

RESULTS

Ninety patients were taken 39 were male 51 were female. 72 patients had headache 18 were of strain type cerebral pain in 72 headache patients 58 were of bell's paralysis and 14 were normal with migraine only. In 18 pressure sort cerebral pain patients just 3 were of Bell's paralysis and remaining 15 never had Bell's paralysis. So in the wake of

performing Chi-square test, with p – value=0.0000 it affirmed that there is noteworthy relationship between Bell's paralysis and headache. But further evaluations are required to know the exact relationship and mechism through which they relate each other.

Table I: Bell's palsy and migraine

Diagnosis Headache	Muscle control intact	Muscle control not intact	Total
Migraine			
Count	14	58	72
Expected Count	23.2	48.8	72.0
Tensiontype			
Count	15	3	18
Expected Count	5.8	12.2	18.0
Total			
Count	29	61	90
Expected Count	29.0	61.0	90.0

Muscle movement that confirms bell's palsy. (closure of eye, smiling, frowning, saying cheese)

P- value showing significant Association between bell's palsy and migraine:

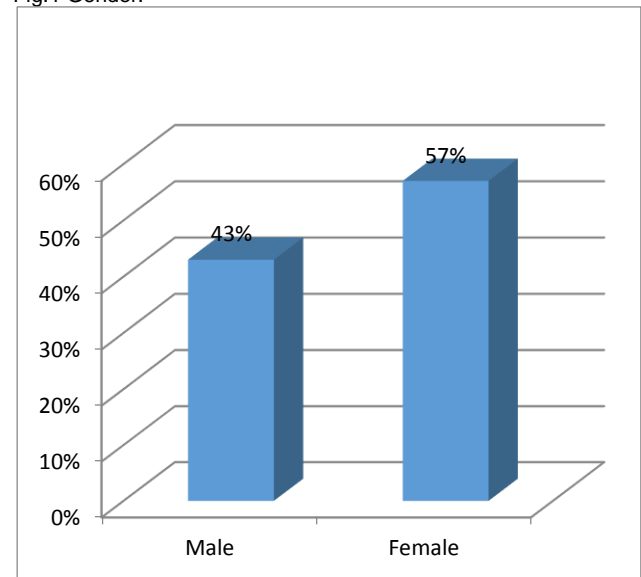
Table II

	Value	do
Pearson Chi-Square	26.914 ^a	1
N of Valid Cases	90	

P value .0000

As the p-value is 0.0000 which is smaller than 0.05 so it is significant and confirms the association between both maladies

Fig.1 Gender:



DISCUSSION

Kim SY et al¹¹ gave a study in which they concluded that the patients with migraine are at high risk to produce the Bell's palsy both issues are interlinked and need further evaluation.

This support our study that was conducted to assess the hazard of bell's paralysis in the patients which have diagnosed migraine a cross sectional examination was conducted with 90 patients as a population, after conducting the study it was concluded that there is a relation between the bell's paralysis and migraine. But for knowing the exact mechanism further evaluation is needed.

Peng KP et al¹² gave research in which he along with his coworkers concluded that the Bell's palsy is seen in the patients with migraine but it requires further evaluation to get the significance results as the bell's palsy and migraine is interlinked with an unknown mechanism which should be studied to know the association between them. They called migraine as previously un identified cause of bell's palsy.

Their results also support this study which was about checking the migraine as a hazard of bell's palsy. This study was a cross sectional study in which all types of migraine symptoms were asked along with the facial muscle movements after conducting analysis it was proved that there is association between the bell's palsy and migraine.

SilbersteinSD et al¹³, & Silvestrini, also gave us a study which along with telling that migraine is the hazard factor of Bell's palsy, also gave three mechanisms which may cause the both issues of migraine and Bell's palsy. They said that migraine and mechanism with which it is causing the bell's paralysis may require further evaluation to know the new therapeutic interventions for them.

In this investigation the patients with cerebral pain were evaluated. They were asked all the potential side effects. Two gatherings were made one was of pressure type cerebral pain and other was of headache. The patients with headache were progressively influenced by Bell's paralysis when contrasted with the patients with strain type cerebral pain. As results demonstrated high importance level (p-value= 0.0000). But need further evaluation.

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