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Case Report

Clonazepam for the Treatment of Hemiballismus in Nonketotic Hyperglycemia: A Case Report

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ABSTRACT

Hemiballismus is a rare movement disorder characterized by involuntary, large amplitude movements of the limbs of one side of the body. We describe the case of 78 years, diabetic female with slurred speech, right-sided hemiballismus. She failed to respond to haloperidol sodium valproate combination but responded well to Clonazepam Sodium valproate combination. This case suggests that clonazepam may be a valuable pharmacological alternative for management of patient with hemiballismus.

Key Words: Clonazepam, Hemiballismus, Hyperglycemia.

INTRODUCTION

Hemiballismus is a rare movement disorder characterized by involuntary, large amplitude movements of limbs and one side of body. Hemiballismus patients require treatment both for the underlying etiology of the movement and for the movements themselves. There are no large controlled clinical trials to guide anti-ballismus therapy. Dopamine receptor blocking agents have an established track record in suppressing choreic and ballistic movements, and are first-line agents for acute treatment. Standard neuroleptics such as haloperidol and perphenazine are started at low doses and titrated as tolerated until the movements are controlled.

CASE REPORT

Right handed, 78 year female brought by relatives in casualty department of Dr. Galande Rural Hospital with complaints of right sided upper and lower limb involuntary movements which improve during steep, since 7-8 days. History of outside hospital admission for convulsions, non ketotic hyperglycemia, septicemia 10 days back with right sided weakness. She is known case of DM -2 on OHA since 3-4 years. She was on sodium valproate and valproic acid combination, 300 mg 12 hrly since last 8 days.

On admission examination revealed right sided periodic choreioform and ballistic movements. Her higher functions were normal. Bowel bladder sensations were normal with mild weakness of right side of body. Computed Tomography scan (Image

1) showed widening of the cortical sulci and basal cisterns suggestive of mild diffuse cerebral atrophy.

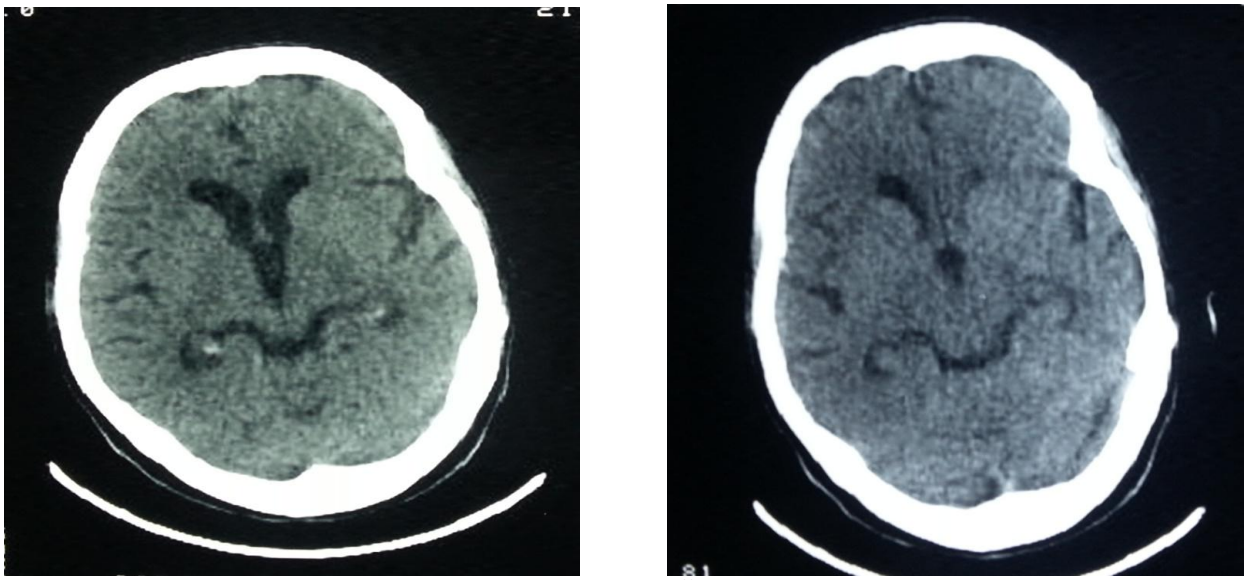

Image 1: CT brain showing mild diffuse cerebral atrophy.

She was treated with injection Haloperidol up to 10 mg/day but failed to respond, hence started tab. Clonazepam 0.5 mg twice a day along with sodium valproate. After starting Clonazepam, she showed improvement in symptoms in 2 days, with total cessation of right sided moments after 3-4 days. During follow up after 15 days when we reduced doses of clonazepam for excessive sleepiness, involuntary movements again reappeared hence clonazepam doses again increased, which vanished right sided movements. It shows the role of clonazepam in hemiballismus and can be considered for treatment. This case suggests that clonazepam may be a valuable pharmacological alternative for patient with hemiballismus.

DISCUSSION

Hemiballismus is the most dramatic movement disorder seen in clinical practice. Its emergence points to a structural lesion or metabolic dysfunction in the region of the subthalamic nucleus, its afferent or efferent pathways, or interconnected deep brain nuclei, usually on the side contralateral to the movements. [1-4] Any focal process may be to blame, but elderly sufferers generally have had vascular events, whereas the etiology is infectious or inflammatory in younger patients.

Severe nonketotic hyperglycemia is another important cause of hemiballismus in the elderly [5,6] Hemiballismus patients require treatment both for the underlying etiology of the movement and for the movements themselves. There are no large controlled clinical trials to guide anti-ballismus therapy.

However, dopamine receptor blocking agents have an established track record in suppressing choreic and ballistic movements, and are first-line agents for acute treatment. Standard neuroleptics such as haloperidol and perphenazine are started at low doses and titrated as tolerated until the movements are controlled. [7] Atypical antipsychotics such as risperidone and clozapine have been used in small series and may have a reduced risk of extrapyramidal side effects. [8,9] Catecholamine-depleting agents such as reserpine and tetrabenazine may be considered when long-term therapy

is required. [10] Other pharmacologic agents that have been used to control ballistic movements include valproic acid, progabide, chlorpromazine, butyrophenone, chloral hydrate, barbiturates, paraldehyde, bromides, phenothiazines, and pimozide. [11-13] When movements persist, stereotactic functional neurosurgical procedures may be considered in good surgical candidates.

Clonazepam is long acting benzodiazepine that increases the presynaptic GABA inhibition and reduces the monosynaptic and polysynaptic reflexes. Suppresses muscle contraction by facilitating inhibitory GABA neurotransmission and other inhibitory transmitters.

As our patient improved after starting Clonazepam and movements reoccured after reducing doses, it shows valuable role of clonazepam in management of hemiballismus.

CONCLUSION

Clonazepam may be a valuable alternative treatment for patients with hemiballismus.

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