

CASE REPORT

AN ATYPICAL PRESENTATION OF HYPEROSMOLAR NON-KETOTIC COMA

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ABSTRACT

Diabetes is a common ailment in our world. It has some atypical presentations as well; one of them is hemiballismus-hemichorea. Here we report a case of newly diagnosed diabetic patient presenting as hemiballismus-hemichorea secondary to hyperosmolar non-ketotic coma. Her MRI brain showed T1 high signals in right basal ganglia and corona radiata suggestive of metabolic derangement. These symptoms may take from months to years to resolve. It has a good prognosis if it is recognised early and treated effectively.

Key Words: Basal ganglia; chorea; diabetes mellitus; dyskinesia; metabolic disease.

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INTRODUCTION

Diabetes is one of the common diseases of the world. It can affect almost every system of the body. Hyperglycemia may cause different movement disorders namely chorea, hemiballismus and hemiballismus with chorea¹. Here we present a case of hyperosmolar non-ketotic coma presenting as hemiballismus-hemichorea.

CASE REPORT

A 75 years old patient presented to Medical Department in December 2015, with chief complaints of confusion and abnormal movements of both upper and lower limbs on the right side. There was no past history of any diabetes or hypertension. On neurological examination she was having hemiballistic and hemichorea type movements on the left side. Glasgow coma scale was 8/15. Rest of the examination was normal. On investigations she was having random blood glucose of 620mg/dl. Arterial blood gas analysis was normal and urine for ketone bodies was negative. Her HBA1c was 11.4% which was suggestive of long standing diabetes which was never noticed before and this was the first

presentation as hemiballistic-hemichoreic movements. Computerized Tomography (CT) revealed diffuse hyper density of the right basal ganglia as shown in Figure 1. There was no mass effect or surrounding edema. MRI brain showed T1 high signals in right basal ganglia and corona radiata suggestive of metabolic derangement (non-ketotic hyperglycemia) as shown in Figure 2.

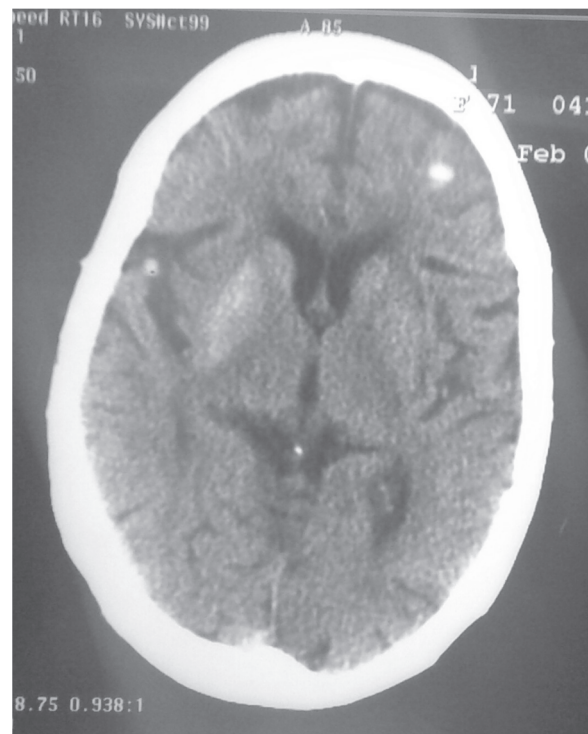


Figure 1: Computerized Tomography (CT) Brain shows diffuse hyper density of the right basal ganglia

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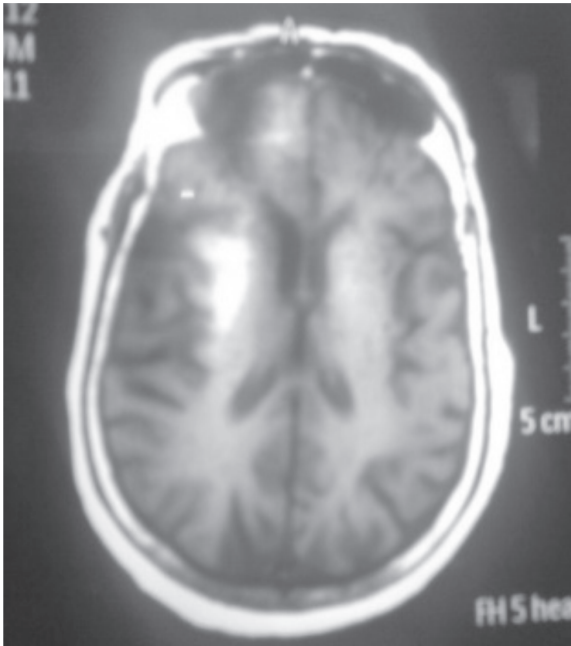


Figure 2: MRI brain shows T1 high signals in right basal ganglia and corona radiata.

DISCUSSION

Hyperosmolar hyperglycemic non-ketotic syndrome consists of hyperglycemia, hyperosmolarity, and intracellular dehydration and absence of ketoacidosis.² Chorea is characterized by involuntary random irregular movements that are not rhythmic or repetitive. Hemichorea is a hyperkinetic disorder involving one side of the body, which is caused by lesions of the contralateral striatum.² Ballism is defined as repetitive, constantly wavering, large amplitude involuntary movements of the proximal portion of the extremities. Hemiballism is characterized by involuntary swinging movements of the extremities on one side of the body. Hemiballism results from a lesion in the contralateral subthalamic nucleus and adjacent structures.² Hemiballism most of the times

develops into hemichorea.³ This condition is more common in the postmenopausal woman most likely as first presentation, like in our case.⁴ The reason for hemichorea-hemiballism in this condition is poorly understood.⁵ Asian people has genetic predisposition for having hemichorea-hemiballism.⁶ Shan and colleagues have hypothesized that the basal ganglia gemistocytes causes neuronal activity through the GABA-ergic projections and results into hemichorea-hemiballism. This activity may resolve within a few months but in some cases it lasted for 6 years.⁷

In conclusion hemichorea-hemiballism due to hyperosmolar non-ketotic coma is benign and reversible condition with good prognosis if the hyperglycemia is recognised early and treated well.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

- Khan M:** Conceived the idea and drafted the manuscript.
Haidr I: Drafted the manuscript.
Naveed S: Literature review.
Humayun M: Proof reading.
Abidullah: Bibliography.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.