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Case Report on Hypokalemic Periodic Paralysis Mimicking as CVA In A Tertiary Care Hospital

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ABSTRACT:

INTRODUCTION:

Hypokalemic periodic paralysis (HPP) is a rare disease associated with flaccid muscle paralysis, accompnished by hypokalemia. Hypokalemic periodic paralyses can be primary and secondary etiology, although most of the etiologies of His primary, several sporadic causes of different etiology have been reported including rare cause such as hyperaldosteronism.Treatment of hypokalemic periodic paralysis focuses on preventing further attacks and relieving acute symptoms.

Case report:

A case of 65 year old female patient presented to emergency department with weakness of right upper limb and lower limb, since night and having history of seizure disorder since 10yeas and on regular medication, laboratory evaluation revealed a markedly low potassium level and magnesium level,there are no other complaints felt by the patient and she was discharged with no neurological deficit . Although rare, periodic paralysis must b different from other causes of weakness and paralysis so that proper treatment can be initiated.

Discussion:

From the clinical symptoms, the result of the patient physical and laboratory examination, the diagnosis of the hypokalemic periodic paralysis must be considered because episodic attack of weakness occur in the presence of trigger factors and the laboratory examination reveal hypokalemia and hypomagnesaemia .although the hypokalemic periodic paralysis was earlier mimicking as cerebral vascular accident (CVA) the proper diagnosis should be done to provide the appropriate pharmacological intervention. The patient had 2.6mmol/l potassium level and also flaccid paralysis with magnesium level 2.2 meq/l, so the patient suspected to have having hypokalemic periodic paralysis accomplished by seizure disorder.

CONCLUSION:

Although the hypokalemic periodic paralysis was early mimicking as CVA, the proper diagnosis should be made the symptoms mimicking as CVA should be differentiated from the symptoms of HPP. The goal of hypokalemic periodic paralysis management is to relieve the symptoms of acute attack, manage complication, and prevent further attack, the etiology underlying the occurrence of hypokalemia should also be further explored, especially to rule out the secondary cause in patient.

KEYOWRDS: CVA, seizure, hypokalemia, hypomagnesia,

INTRODUCTION

Hypokalemic periodic paralysis (hypokpp/HPP) is a rare autosomal dominant channelopathy which is characterized by muscle weakness or paralysis with a matching fall in potassium level in blood primarily due to due to defect in voltage gated potassium channel.[1] The hypokalemic periodic paralysis is classified based o etiology namely primary and secondary .the primary cause is due to autosomal dominant inheritance from point mutation in calcium channel CANA is subunit where as secondary cause is due to kidney ,endocrine causes, drug use, hypokalemia secondary to GIT loss (diarrhea).[2]

As a rule the majority of patient experience episodic muscle weakness lasting from minute to days with spontaneous recovering .symptoms are often precipitated by exercise , rest following physical activity, cold mental stress , hormone ,or a heavy carbohydrate meal and some medication. They also known to be associated with cardiac arrhythmia ,essential tremor and epilepsy.

Periodic Paralysis frequently thought to be benign Condition, Nevertheless, Life threatening weakness episodes or Progressive permanent Weakness have been known to occur furthermore the attacks, create disability and disruption of activity in Some instance lead to persistent weakness with attended Low Self esteem.[3]

Treatment of Hypokpp focuses on further attacks and relieves Symptoms. Avoiding Carbohydrate rich meals, strenuous exercise, and other identified Triggers, and taking carbonic anhydrase inhibitors may help prevent attack of weakness. Some patients also takes potassium sparing diuretic such as ,sprinolactone to help maintain potassium levels .Rapidly absorb boluses of liquid potassium are frequently needed to abort an attack, but some also patient also find positive maintained results with time released potassium tablet. Iv.potassium is seldom justified unless the patient is unable to swallow .Daily potassium dosage may be needed to be much higher than for potassium replacement from simple hypokalemia ,100-150meq of potassium is often needed manage the daily fluctuation in muscle strength and function.[1]

Here is the case report we present such as case of hypokalemic periodic paralysis mimicking CVA.

Case Report

A 65 old female Patient presented to the emergency department wit Complains of Weakness of Right Upper Limb & Lower Limb since nights insidious in onset gradually Progressive", and difficulty in walking since last night. Patient having history of seizure disorder sine lo years and is on Regular medication Patient also having history of Knee Surgery years back There Is no history of Trauma, fever, abdominal pain, and reduced urine output. Today the Patient Parented to emergency department with complains of weakness of Left & Right Lower limb. And difficulty in walking and Moving limbs .There is no headache and no slurring of speech and no deviation of mouth.

On examination:

Airway assessment:

Patent, talking and protected

Breathing Assessment:

Respiratory rate: 18cpm

Labored: No

SPo2:98% on room air

Circulation:

Pulse: 94bpm

BP: - 130/80mmhg

Peripheral pulses:

Temperature: afebrile

GRBS: 150mg/dl

Disability:15/15,counsious and oriented normal high mental function and oriented to time ,place and time

Pupil : constricted ,bilaterally equally reactive to light

Sensory examination: normal bilateral motor function

Power: right upper limb=4

Left upper limb=5

Right lower limb = 4

Left lower limb =5

Plantor : right –mute , left –withdrawal

No deviation of angle of face

No stagmus and no neck rigidity

Review of system:

HEENT: PICCLE –negative

Chest: B/L NVBS+ve

Cvs: s1 s2 heard, no murmur

CNS: conscious oriented

p/a : soft, non tender bowel sound +Ve

Past medical history : k/c/o seizure disorder since 10years on regular medication

Post surgical history :right knee surgery 5years back

Hospital course

T.ASPIRIN -150mg –OD for 2days

T.CLOPIDOGREL -75mg -0D-for 2days

T.Atorva -40mg –OD-for 6days

T.Pantop-40mg-OD- for 6days

T. vomiset -4mg-OD- for 6days

Syp.potchlor -10ml for 8days

T.eptoin -100mg –TID –for 2days

DISCUSSION

Hypokalemic paralysis is rare autosomal dominant channelopathy which is characterized by muscle weakness or paralysis with matching fall in potassium level in blood. hypokalemia can be classified based on the etiology namely Primary and secondary causes, where Primary Cause autosomal dominant inheritance from point mutation in calcium channel and secondary Cause include Kidney,(renal tubular acidosis ,Gitelman Syndrome, & primary hyperaldersterorism) endocrine Causes (thyrocotoxicosis) drug use (Laxative, diuretic, Corticosteroid, thyroid hormone pill) and hypokalemia Secondary to Gastrointestinal loss (diarrhea). Hypokalemia can be Triggered by Stress, Carbohydrate rich foods ,infections ,hypothermia ,anesthesia and strenuous exercise.

Patients usually present with severe generalized muscle weakness s with more pronounced proximal then distal muscle involvement and decreased serum potassium level. many patient also experienced prodormal symptoms such as fatigue ,parasthesia ,behavioral changes before the attack of muscle weakness, however they are more common in the lower leg than in upper leg .periodic paralysis of secondary hypokalemia is less common ,their suspension fot hypoklaemic periodic paralysis with secondary causes included kick of family history of the patients experience and one set of symptoms ,patient who experience there fines attack of HPP at an older age should b evaluated carefully to rule out secondary cause.

After detecting hypoklaemic periodic paralysis in patient with acute flaccid paralysis,

The main goal of the treatment to relieve the symptoms of an acute attack presentation and management of implication and prevention of further attack. the etiology of potassium disorder should also b exploded further. acute phase treatment is carried out a aim of normalizing serum potassium levels by administrating oral /intramuscular potassium chloride in reducing symptoms of muscle weakness ,potassium must b carried out.

On periodic paralysis of hypokalemia correction restore by membrane polarization result in the release of potassium store in the intracellular compartment leading to rebound hypokalemia .therefore, it is more advisable to correct serum potassium by oral form than intravenous potassium supplementation . the serum potassium level should be maintained for upon 24hours after potassium correction .

Oral potassium chloride is given in initial doses of 0.5-1meq/kg (60-120meq/kg of potassium for 60kg individual) .if it does not response to initial dose then 30% of the initial dose (0.3meq/kg)can be retested every= 30minute .if the patient requires the addition of more than 100meq of oral potassium ,dose monitoring of serum potassium is required ,and the total potassium should not be more than 200meq within 24 hours of starting treatment .if intravenous administration is required potassium chloride be infused at slow rate not exceeding 10mmol/hour .intravenous potassium is usually given only for arrhythmia due to hypokalemia or in the patient has difficulty in swallowing or paralysis of the respiratory muscle .intravenous potassium requires requires hospitalization and continuous ECG monitoring.

Ling term prevention management aims to reduce the severity and frequency of attack ,there by improving quality of life. the focus included avoiding risk actor than can lead to periodic hypokalemia paralysis and pharmacological intervention .

Pharmacological intervention such as long term potassium supplement ,carbonic anhydrase inhibitors (acetazolamide) ,potassium sparing diuretic (spironolactone) are usually given life style modification are not sufficient to reduce attack. Regular potassium supplementation is not necessary in most cases ,patient may be advised to take oral potassium supplement if symptoms of paralysis develop.

CONCLUSION

Hypokalemic periodic paralysis (hypokpp)is a rare condition which can be of primary and secondary etiology .A common symptoms of HPP is flaccid motor paralysis ,which can last several minute to hours or days and causes morbidity .the goal of HHP management is to receive the symptoms of an acute attack ,manage complication ,and for further prevention of attack .the above case report shows how confusing the clinical prentarion can be the gross neurological defecicite in the patient was provisional diagnosed as CVA in view of MRU- imaging was Also done .usually hypokalemia is associate with hypomagnesaemia which is decrease magnesium in the patient, although the patient improved but such patient can again return back with similar issues ,so it is mandatory to counsel so h patient and take necessary action and follow a potassium rich diet. Therefore the etiology underlying the occurrence of hypokalemia should be rule out to secondary changes in patient.

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