

Case Report

Hypokalemic Periodic Paralysis

H MUKHTAR S AHMAD A JAVAID K QAYYUM

Department of Medicine, Mayo Hospital, Lahore

Correspondence to Dr. Hamid Mukhtar, E-mail: hamid_150@hotmail.com

A case of 35 years old diabetic woman who presented to us with weakness of both arms and legs for past 3 days. Laboratory investigations showed potassium of 3.1mg/dl with no other prominent positive findings. After the diagnosis of hypokalemic periodic paralysis she was managed with potassium chloride to which she responded well.

Periodic paralyses are rare disorders of voluntary muscles. They are characterized by episodes or attacks of muscle weakness between which, the affected muscles usually work normally. There are many different types of periodic paralyses of which the three most common types are hypokalemic (low potassium), hyperkalemic (high potassium) and thyrotoxic periodic paralyses.

Hypokalemic periodic paralysis is characterized by a decrease in potassium levels in the blood. It may be inherited, or can occur without a family history. If inherited, it often occur in an autosomal dominant fashion, meaning that children of affected parents have a 50 percent chance of getting the disease.

Attacks of hypokalemic periodic paralysis are usually triggered by exercising too strenuously, eating high carbohydrate or high salt meals, or taking drugs such as insulin. Attacks generally begin in adolescence and may last from few hours to several days. The frequency of attacks vary, but are usually more severe than those occurring in hyperkalemic periodic paralysis. This report describes our experience in the diagnosis and management of such an attack.

Case report

Mrs. Rozina Razzaq, 35 years, presented to us through emergency with progressive weakness of both the arms and legs for 3 days. She was a known diabetic and was on oral hypoglycemics for the past one and a half years with poor control. Her weakness progressed from legs to arms over the period of 3 days. A day before her presentation she fell down and could not stand again. In the emergency she was unable to even hold her head. She had no previous history of muscle weakness, dysarthria, dysphagia or any loss of vision or diplopia. No history of any urinary or fecal incontinence as well. Her family history did't reveal any such condition. Menstrual history was completely normal.

On examination her vitals were within normal limits with no positive findings on general physical examination. Neurological examination showed a generalized decrease in tone and power in the upper and lower limbs. Reflexes were diminished with down going planters. Rest of the systemic examination revealed no findings. The

investigation carried out showed Hemoglobin level of 12.6 mg/dl, blood sugar level of 258 mg/dl, sodium level of 132 mg/dl and potassium level of 3.1 mg/dl. Liver and Renal function tests were normal Urine complete examination was positive for glucose only. After the diagnosis of hypokalemic periodic paralysis was made she was managed with 2 ampoules of potassium chloride(KCL) stat in 1000c.c ringer lactate and 4 TSF of KCL stat in oral form along with insulin injections. Later on she was maintained on 2 TSF of KCL thrice a day. She responded to potassium chloride. Her weakness progressively got better and she was allowed to go home with advise for follow up.

Discussion

Hypokalemic periodic paralysis is the most common cause of periodic paralysis. During an attack of muscle weakness, otherwise normal potassium levels in the bloodstream are low. The muscle weakness is a result of less potassium flowing from the bloodstream and into the muscle cells. The most common muscle groups affected are the arms and legs. Between attacks, patients often experience normal muscle strength, but after repeated attacks (over many years), persistent muscle weakness may occur.

Thyrotoxic periodic paralysis, being rare outside Asia, closely mimics the clinical presentation of familial hypokalemic periodic paralysis. Mainly men in the third decade with a negative family history are affected. Graves' disease is the most common cause of hyperthyroidism. This disorder is not always clinically apparent since signs of hyperthyroidism may be easily missed. Therefore thyroid function tests are part of the diagnostic workup of hypokalemic periodic paralysis.

Attacks of periodic paralysis are rarely life threatening, and some attacks can be so brief that they do not require treatment. However, over time these attacks can eventually lead to permanent muscle weakness, so treatment should be sought as soon as possible.

For patients with hypokalemic periodic paralysis, administering potassium may stop an attack. Still,

- Coagulation defects
- Hemophilic A.B.C.
- Hemolytic toxins (snake venoms)
- Viral hemorrhagic fever
- Thrombocytopenic purpura

But unilateral bloody tears is always local, either ocular, palpebral or from neighbours i.e., lacrimal sac, nose etc. The prime unilateral reason for bloody tear injury, pyogenic granuloma, internally ruptured chalazion, but they have a chronic history, if due to leeches, the onset is abrupt. And symptoms are mild, but blood stained profuse tearing, the blood is uncoagulable due to presence of hirudine, are anticoagulant secreted by leeches. The leeches have affinity to attach the limbus and parasite tends to enter the anterior chamber and as a consequences

cause devastating damage to the ocular structure and resulting in ruined eye and permanent cecity.

Thus people should be acknowledge and informed to avoid such situation where leeches are prevalent, to avoid bathing in talabs, drinking and washing in slow stream water.

If ocular involvement occurs the immediate measures should be taken for its removal.

References

1. Ross MS. The leeches of dermatological interest. Arch: Dermatology 1983, 119:276.
2. Taylo RE et al. Clinical evaluation of patient with bruising and bleeding TAAD 1981, 4: 348.