TRANSIENT QUADRIPLEGIA IN CRANIOVERTEBRAL JUNCTION ANOMALY

Dr.DHARANEEDHAR REDDY M*, Prof. Dr. ARUN RAJ E, Prof. Dr.BALAMURALI K[2], Dr. SEKAR D[3]

INTRODUCTION

Spinal cord injuries (SCI) are a common reason for presentation to the emergency department.

Patients who present in the emergency department (ED) with SCI must be properly triaged and evaluated to reduce the risk of neurological damage.The severity of SCI can range from transient to permanent injury.The mechanism of injury in TQ results from hyperflexion, hyperextension, or direct axial load of the cervical spine.

CASE DETAILS

A 36 year old female, who is a home maker with no co-morbidities, presented with acute onset of weakness of all four limbs while she was doing household activities in the morning without loss of consciousness.Patient came to OPD after 1 day of onset of weakness.

On examination, patient was conscious and oriented.Patient was areflexic with no response plantar. MRC grade for power was 0/5 in both upper and lower limbs with neck muscle weakness and normal sensory, cranial nerve examination. Pupils were equal and reactive to light and the fundus normal.

Patient had no history of loose stools and vomitings.Patient was not taking excessive carbohydrate diet or previous history of hypokalemia.She had no signs of dehydration.

DIAGNOSIS

After getting informed and written consent, all necessary investigations are carried out.Basic investigations were within normal limits.Metabolic parameters are normal. CSF analysis was not done.

MRI Brain and cervical spine done.Neuroimaging showed Cerebellar tonsils extended 1.5 cm below the foramen magnum.

Crowding of foramen magnum with effacement of CSF spaces noted.

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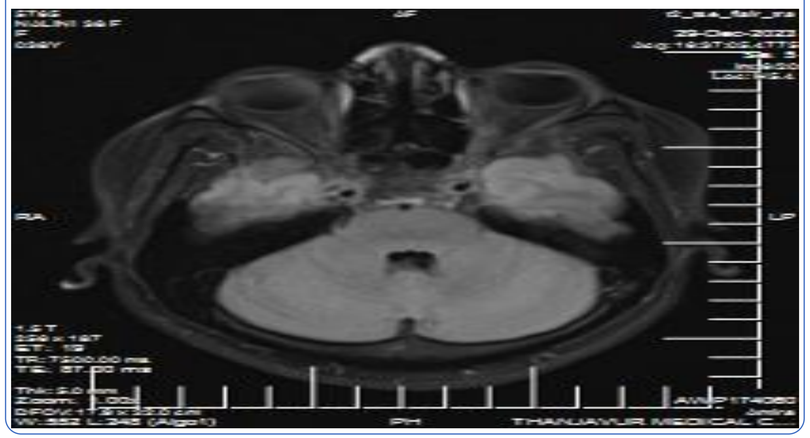
CONFIRMATION



DISCUSSION

Our patient initially presented with acute onset weakness of all four limbs with normal sensorium . Patient recovered within 48 hours onset of weakness completely.

The pathophysiology of transient quadriplegia involves a non-neutral cervical position in addition to an axial force.

It is theorized that the compression causes a prolonged depolarization of the neural tissue, thus inhibiting further action potentials.

Patients at risk for TQ are those with a smaller ratio of spinal canal diameter to vertebral body diameter.

In patients who present to the ED with TQ, they do not commonly experience neck pain and loss of cervical range of motion around the time of presentation.

CONCLUSION

When this patient population presents to the ED, appropriate assessment, clinical decision-making, and imaging is of great importance.Metabolic causes and vascular causes have to be ruled out.

After initial evaluation, MRI was performed and she was found to have tonsillar herniation - Chiari Type 1 malformation.

In those patients who are diagnosed with transient quadriplegia, they will need to have an informed discussion with their neurophysician and neurosurgeon to reduce the risk of future morbidity

AUTHOR INFORMATION

*** DM Neurology Resident, Thanjavur Medical College and Hospital (TMCH),**
[1] Head of Department, Department of Neurology, TMCH,
[2] Associate Professor, Department of Neurology, TMCH,
[3] Assistant Professor, Department of Neurology, TMCH.