

CRANIO VERTEBRAL FUNCTION ANOMALY WITH SPONDYLOSYNDESIS: A CASE REPORT

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Abstract

Crania vertebral junction abnormalities such as atlantoaxial dislocation with or without basilar invagination with or without association chiari malformation may cause a high cervical myelopathy occasionally mechanical factor such as inadequate canal decompression torticollis and scoliosis may lead to lack of implement. A 30 years old male patient was admitted in the neuro ward with presenting complaint of weakness in right leg since 9 month, pain in neck region since 9 month, difficulty during walking and unable to climb stairs, tingling sensation in right hand since 9 month. After undergoing certain primary therapeutic investigation like Blood investigation, MRI, x-ray, patient was diagnosed with a Cranio Vertebral Function Anomaly. He was initially treated with antibiotics, penicillin, Analgesic, antacid, antiemetic, and intravenous fluid along with alternative therapies i.e. gripping exercises of upper limb, bed mobility training, bed side sitting, breathing exercise and dynamic quads. Patient showed progressive during hospitalization.

Keywords: cervical fusion, cervical spine, spondylosyn-desis, spinal fusion.

INTRODUCTION

Cranio-cervical junction anomalies are congenital or acquired defects of the occipital bone, foramen magnum, or first two cervical vertebrae that reduce room for the lower brain stem and cervical cord.[1] As a region of transition between the skull and the spine, the cranio-vertebral junction (CVJ) has a complicated bony architecture and a complex connection with the main neurovascular systems.

[2] As a result, treating the numerous forms of defects in this area presents many difficulties, particularly for children.[3] There are particular difficulties in the surgical treatment of cranio-vertebral junction instability in neuro patients.[4] The data regarding techniques, issues, and outcomes of spinal instrumentation originates from experience with adult patients.[5]

A client 30 year old male was admitted in neuro ward with the complaint of pain in neck region Since 9 month, weakness in right leg Since 9 month, tingling sensation in right hand Since 9 month, and has difficulties in walking Since 9 month, vertigo.

Case presentation:

A 30 years old male client presenting in the neuro ward with the complaint of tingling sensation in right hand, weakness in right leg, pain in neck region, difficulty in walking and unable to climb up stairs, The patient also developed tingling sensation in bilateral palm and sole Since 9 month, decreased activity and vertigo.

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Access this article online

Quick Response Code:



Website:

www.pnrjournal.com

DOI:

10.47750/pnr.2022.13.03.138

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How to cite this article: Komal Dipchand Satpudke, Ruchira Ankar, Roshan Umate, CRANIO VERTEBRAL FUNCTION ANOMALY WITH SPONDYLOSYNDESIS: A CASE REPORT, J PHARM NEGATIVE RESULTS 2022;13: 915-917.

Initial assessment and investigations revealed that, the count of blood report showed total platelet count 2.34, total RBC count 5.03, total WBC count 7400, in X-ray impression shows there is presence of a normal vertebral angiogram. In MRI impression shows there is presence of posterior superior displacement of dense [tip is 11.5mm above the level of McGregor line] basilar invagination. It is causing compression on the crevice-medullary junction and cervical spinal cord at C2 level with T2 high signal intensity changes within – compressive myelopathy changes.

These finding led to a clinical diagnosis of the patient as Cranio Vertebral Function Anomaly and further, the patient was treated with tab. Inj Ceftriaxone 1 mg [Intravenous] Inj dexamethazone 4 mg [Intravenous] tab pantoprazole 40 mg, oral, tab paracetamol 650 mg [orally], tab Emset 4 mg oral, syr. Duphalac, active movement of bilateral and unilateral L/L for all joints, gropping exercise, bed mobility training, bed side sitting and breathing exercise and dynamic quads. The patient was further treated with after surgical procedure of spinal fusion. The patient was further suggested for surgical management and definitive method in consideration that it is a clinically effective and safe intervention it was performed with no complaints during the two to three month of follow-up. Over the period patient reported improvement of his symptoms no subsequent follow up visit and patient prognosis was good.

Discussion:

Over the past two decades, surgical methods for stabilizing the CV junction have undergone a significant makeover.[6] Rod and screw structures have replaced fixation procedures that used stainless steel rod, subliminal wires, and rib grafts. A well-known surgical procedure is occipital cervical fusion employing occipital screws, C1 lateral mass screws, and C2 pedicle screws.[7] Screw rod structures are superior to earlier systems, according to biomechanical tests. C1-C2 Trans articular screws have been proven to be less biomechanically durable than a screw rod design when used alone.[8-18]

If there is substantial stenosis at C1 level necessitating C1 posterior arch excision, it might not always be possible to reinforce it with C1-C2 (focal cord edema) subliminal wiring and bone bionical bone graft.[9] Surgeon may utilize plates to fuse the bones together during this treatment. In most cases standard medical treatment such as MRI, X-Ray, blood investigation has done.[19-22] The general procedure has recommended, but it is done with the supportive care like monitoring the changes, or improvement, increasing fluid intake and intravenous fluid.[23-30]

When performing a lumbar discectomy using the open technique, the supraspinatus ligament and ligament flavum are removed in accordance with Lund's observation that using the L5-S1 space is associated with a lower incidence of post-spinal cephalalgia, possibly as a result of "postural

Dural relaxation".[31] Additionally, according to recent evidence, using a pencil-point Whitaker needle reduces the risk of post-Dural puncture headaches at least to the same extent as using epidural anesthesia.[32-34]

Conclusion:

The most intricate part of the axial skeleton is the cranio-vertebral junction, which is located between the skull and the upper cervical spine. Bony anomalies that are inherited, developed, or acquired compress and deform the brain structures, the vertebra basilar vascular system, and the channels that carry cerebrospinal fluid. The therapeutic significance of this has just lately been understood, and incorrect diagnoses have sometimes resulted in delayed treatment and unfavorable outcomes. In this case patient was treated with antibiotics, penicillin, Analgesic, antacid, antiemetic, and intravenous fluid along with alternative therapies i.e. gropping exercises of upper limb, bed mobility training, bed side sitting, breathing exercise and dynamic quads. Patient prognosis remains good.

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