

INTRODUCTION

- Initially described in Japan by Keizo Hirayama in 1959, cervical flexion-induced myelopathy (CFIM), also known as Hirayama disease, is a relatively uncommon neurologic disorder of the lower motor neurons.
- This disorder primarily affects young males in their early 20s. It is characterized by a progressive weakness and wasting of C7-T1 innervated muscles. The diagnosis is confirmed by dynamic magnetic resonance imaging (MRI).

AIMS / OBJECTIVES

- The objectives of this study are
 - To assess the clinical presentations
 - To study the magnetic resonance imaging (MRI) features of Hirayama disease on a 3 Tesla MRI scanner

MATERIALS / METHODS

- The study was conducted in KLE's Dr Prabhakar kore hospital , Belagavi, a tertiary care hospital using 3.0 Tesla Siemens MRI Machine (Magnetom Spectra)
- A 17 year old patient was presented to the out patient department of our hospital with complaints of progressive clawing of right hand since one year and generalized weakness
- There is no significant birth history and no significant family history
- On clinical examination, features were as follows: (1) chronic weakness and atrophy of the distal upper limb along with clawing (2) initial onset in the teen years or in the early 20s (3) non progressive course and arrest of disease within a few years of onset
- He was suggested MRI spine with flexion and extension

RESULTS & DISCUSSION

- Magnetic resonance imaging (MRI) in neutral position revealed T2 hyperintensities involving spinal cord extending from superior end plate of C3 to superior endplate of C7 vertebral bodies with spinal cord atrophy at that level
- On flexion , there is seen anterior displacement of the posterior theca such that it compresses the cord between it and spinal cord anteriorly at C4-C5,C5-C6,C6-C7.
- On extension, the canal is capacious and no neural foraminal stenosis is present



NEUTRAL POSITION FLEXION POSITION EXTENSION POSITION

CONCLUSION

- Our study states that pathophysiology of the hirayama disease results from the posterior cervical dural sac's displacement, which compresses the spinal cord and ischemia of the anterior horn cells thus resulting in the symptoms.
- During adolescence , there is seen unproportional growth of the cervical cord and spine.
- This case study may be significant because, with early diagnosis, simple cervical collar management can halt the disease's progression and reduce the need of lengthy surgical procedures.