Original Research Article

To Evaluate The Etiological And Clinical Profile Of Non-Traumatic Myelopathy Patients Attending In A Tertiary Care Hospital

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ABSTRACT:
Background: Non-traumatic myelopathies describes any neurologic deficit related to the spinal cord and have a broad and heterogeneous group of etiologies, can be divided into compressive and non-compressive myelopathies. Observed etiologies are demyelinating process, Infections neoplastic, metabolic, vascular diseases and congenital malformations. Spinal cord diseases often have devastating consequences, ranging from quadriplegia and paraplegia to severe sensory deficits.
Objective: The main objective of this study aims to identify etiological and clinical profile of patients presenting with non-traumatic myelopathies.
Materials and Methods: The present cross sectional, prospective study was conducted at a tertiary care hospital, over a period of 1 Year from November 2020 to October 2022. A total of 100 patients with non-traumatic myelopathies were included. Patients in which history of trauma were excluded. Patients underwent detailed clinical evaluation followed by laboratory investigations including neuro imaging studies. MRI was done for all patients.
Results: Total 90 patients participated in the study. 53 (58.88 %) were male and 37 (41.11%) patients were female, highest cases of 32 were in the age in between 41-50years followed by 22 cases in the age group of 51-60 years. Total of 69 of cases were incomplete myelopathy cases and among incomplete myelopathy cases 52 cases were compressive cases. Clinical presentation 76.66% cases shown paraperesis and 34.44% cases quadriperesis cases.
Conclusion: Tumors, Pott's Spine, Disc prolapse and Acute disseminated encephalomyelitis (ADEM) were the most common etiologies of non-traumatic myelopathy. MRI has proven to be the ultimate imaging modality for their etiological evaluation.

Keywords: Non-traumatic myelopathy, quadriperesis, Disc Prolapse , Pots spine.

INTRODUCTION:

Myelopathy describes any neurologic deficit related to the spinal cord[1]. It can be either traumatic or non-traumatic. Non-traumatic spinal cord diseases. It is a broad and heterogeneous group of etiologies, summarily divided into compressive and non-compressive diseases[2,3]. Clinical presentation of spinal cord disease is variable. Myelopathies affects not only motor, sensory and autonomic system, but also has various psycho social sequels[4]. vertebral spondylosis, neoplasm,

infections, vascular ischemia radiation myelopathy, syringomyelia, paraneoplastic syndrome, and Vitamin B12 deficiency are some group of major etiologies. Spinal cord diseases often have devastating consequences, ranging from quadriplegia and paraplegia to severe sensory deficits. Non compressive myelopathies encompasses large range of disease entities ranging from demyelination, nutritional, toxic to degenerative diseases. Many of these diseases are potentially reversible if recognized and treated at an early stage[5]. With advent of MRI a sensitive modality for lesions of spinal cord, yield for positive diagnosis has greatly increased[6]. The incidence of non traumatic spinal cord lesions is difficult to determine because of infrequent reporting, but it is estimated to be equal to traumatic spinal cord injury. non traumatic spinal cord is an area of growing importance, as research suggests that the proportion of spinal cord injuries with a non-traumatic cause is increasing and will continue to become more prevalent, in part due to ageing populations[7]. There is a high burden of care following the onset of NTSCI, and in numerous cases this persists after discharge from inpatient rehabilitation[8]. The present study was aimed at evaluating the clinical profile and etiology of non-traumatic myelopathies with the aid of MRI.

MATERIALS AND METHODS:

The present cross sectional, prospective study was conducted at a tertiary care hospital, over a period of 1 Year from November 2020 to October 2022. A total of 100 patients with non-traumatic myelopathies were included. Patients in which history of trauma were excluded. Patients underwent detailed clinical evaluation followed by laboratory investigations including neuro imaging studies. CSF analysis was done to rule out secondary causes. Cases were classified as complete/incomplete myelopathyand latter into compressive / non compressive myelopathy.
Results were analyzed using Microsoft Excel 2010 using descriptive statistical tools such as frequencies, mean, ± standard deviation (SD), and percentages.

RESULTS:

Out of 90 patients of non-traumatic myelopathy, 53 were male and 37 were female with an age group of 15–70 years(Table1). In this study, maximum number of patients (35.55%) was in the age group of 41-50 years followed by 24.44 % in the age group of 51-60 years and least number of patients were below 20 years age group. (Table 2). 69 patients were shown incomplete myelopathy and 31 patients were of complete myelopathy cases.(Table 3). In etiology of non traumatic cases major were tumors(19) followed by potts spine (16) and less common was hereditary spastic paraplegia (2). Table 3. Total of 69 of cases were incomplete myelopathy cases and among incomplete myelopathy cases 52 cases were compressive cases with tumor was major etiology and ATM was the most important etiology in the non-compressive group. Clinical presentation 76.66% cases shown paraperesis and 34.44% cases quadriperesis cases.

DISCUSSION:

Early diagnosis and treatment of non-traumatic myelopathy are favorable for prognosis of a patient. Therefore, the treating physician has to be well acquainted with various clinical presentations and diagnostic aids for non-traumatic myelopathy[9]. In 2013, the World Health Organization (WHO) reported that the incidence of non-traumatic myelopathies was higher in male than in females and incidence steadily increased with age[10]. Our study findings were in similar with studies done by Haleem *et al*[11] in Bangladesh, where 62% were male and 38% were female and the highest number of patients was in the age group of 51–60 years which correlates to the present study of maximum number of patients in the age group of 56–65 years . 31 patients presented with picture of complete myelopathy defined as involvement of descending tracts at the level of the lesion, 69 patients had incomplete myelopathy. Of those with incomplete myelopathy 52 patients had compressive cause and extra dural compression accounted for most of them and our results are in similar with study by Lazlo L[12] and Adams[13] and The most common cause of compression was tumours. Its incidence in our study is around 21.1%, while in other studies its incidence varies from 21-30% of all

compression .primary spinal cord tumours accounted for majority were in similar findings of Costigan er al[14]. All the patients of Pott's spine in our study were having paraparesis where it was found to be 93.3% in the study of Chaurasia *et al*[15]. and 91.7% in the study of Haleem *et* [a11l]. A similar observation has been found by Deivigan *et al*[16]. Out of 90 patients, 31 (41.66%) patients showed quadriparesis and 69 (58.33%) patients showed paraparesis in the present study. The major limitations of our study population are its smaller sample size and hence the results cannot be generalized to the whole population of non-traumatic myelopathy.

CONCLUSION:

MRI has proven to be the ultimate imaging modality for their etiological evaluation Age group <50 yrs most commonly involved. Most common type was incomplete myelopathy. Tumours and potts spine accounted for most of the cases of compressive myelopathy. Acute transverse myelopathy was the most common cause of non-compressive myelopathy.

Table 1: Sex distribution in study population

Gender	Number
Male	53
Female	37
Total	90

Table 2: Showing Age Distribution

Age in years	Number of patients
>20	02
21 – 30	06
31 – 40	16
41 – 50	32
51 – 60	22
61 – 70	12

Table – 3: Etiological profile of non traumatic myelopathy.

Etiology	Total number of patients
Tumors	19
Potts spine	16
Disc prolapse	12
Transverse myelitis	12
CV junction anamoly	09
ADEM	09
Syringomyelia	08
Sub acute combined degeneration of cord	03
Hereditary spastic paraplegia	02

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