

Etiological Diagnosis Of Patients With Non- Traumatic Paraparesis : A Clinical Research

Sharath T.R¹, Vishal.M, Sasmitha.C, Manikandan.G,
Datla Eshwar Lohit Varma

⁽¹⁾ (post graduate student) Department of General Medicine
SSMC, Tumkur

Corresponding author: Sharath T.R (post graduate student) Department of General Medicine, SSMC, Tumkur

Abstract:

BACKGROUND: Paraparesis/ plegia is an illness that leads to a debilitating condition that cannot be reversed or cured if mis- diagnosed or left untreated. In our country it is been estimated to be most commonly of infectious origin. Hence, early diagnosis and prompt treatment adjuvanted with modern advances in the field of neurodiagnosis aids in the declined rate of morbidity among affected population.

AIM & OBJECTIVES : To evaluate the etiology of patients with non-traumatic paraparesis.

METHODOLOGY: All patient presenting with Paraparesis to Sri Siddhartha Medical College & Hospital, Tumkur were taken for this study after obtaining their informed consent. Universal sampling study was done within a study period of 2 years. Patients above 18 years of age with acute, sub acute and chronic onset motor weakness, sensory symptoms of lower limbs of nontraumatic etiology was considered. Various investigations in concern to the paraparesis evaluation was examined. All the collected datas were statistically analysed using SPSS software version 18.0. One way analysis of variance and chi- square test were done wherever applicable.

RESULT: In this study, after various related investigations maximum incidence and prevalence among the included population showed The prominent etiological diagnosis was Tuberculosis of spine followed by Subacute combined degeneration.

Key Words: Paraparesis, nontraumatic, neurodiagnosis.

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I. Introduction:

To improve accurate communication and consistency among clinicians and researchers, American Spinal Injury Association (ASIA) developed and published the international standards for neurological and functional classification of spinal cord injury patients. ASIA defines paraparesis as a partial loss of voluntary motor function in the pelvic limb. Paraparesis generally results from spinal cord lesions distal to the second thoracic spinal cord segment. ⁽¹⁾

Transverse myelitis, multiple sclerosis, motor neuron disease, subacute combined degeneration and Pott's spine are the most common etiological features for paraparesis. Here comes the vital role of the physicians in accurate diagnosis and management of the diseases. With the aid of recent developments in the neuro diagnosis and well evolved neuro surgical techniques along with broad anti- microbial spectrum the field of medicine have greatly reduced the morbidity among the patients with paraparesis. ⁽²⁾

II. Materials & Methods:

The patients presenting with Paraparesis to Sri Siddhartha Medical College & hospital, Tumkur were taken for this study after obtaining their informed, valid written consent. Universal sampling method was incorporated in the study.

INCLUSION CRITERIA: Age greater than 18 years. Acute, subacute and chronic onset motor weakness, sensory symptoms of lower limbs of non-traumatic etiology.

EXCLUSION CRITERIA: Patients having obvious traumatic causes.

SAMPLE SIZE: Fifty cases satisfying inclusion and exclusion criteria admitted at Sri Siddhartha Medical College & Hospital during the study period of two years were examined.

METHOD OF COLLECTION OF DATA: Each patient included in the study was methodically evaluated by obtaining a detailed history and performing complete neurological examination. This was recorded on a predesigned and structured proforma along with the routine investigations done as per standard protocol of the

unit. The institution’s ethical clearance was obtained by submitting the detailed synopsis of the study with all the necessary profoma to the institutional ethical committee board on a discussion forum.

Routine Investigations: Complete blood count with peripheral smear, Blood glucose level, urea & creatinine, Urine routine & microscopy, Chest X-ray, Tuberculin test, ESR, CRP, LFT, USG of abdomen, HIV, VDRL.

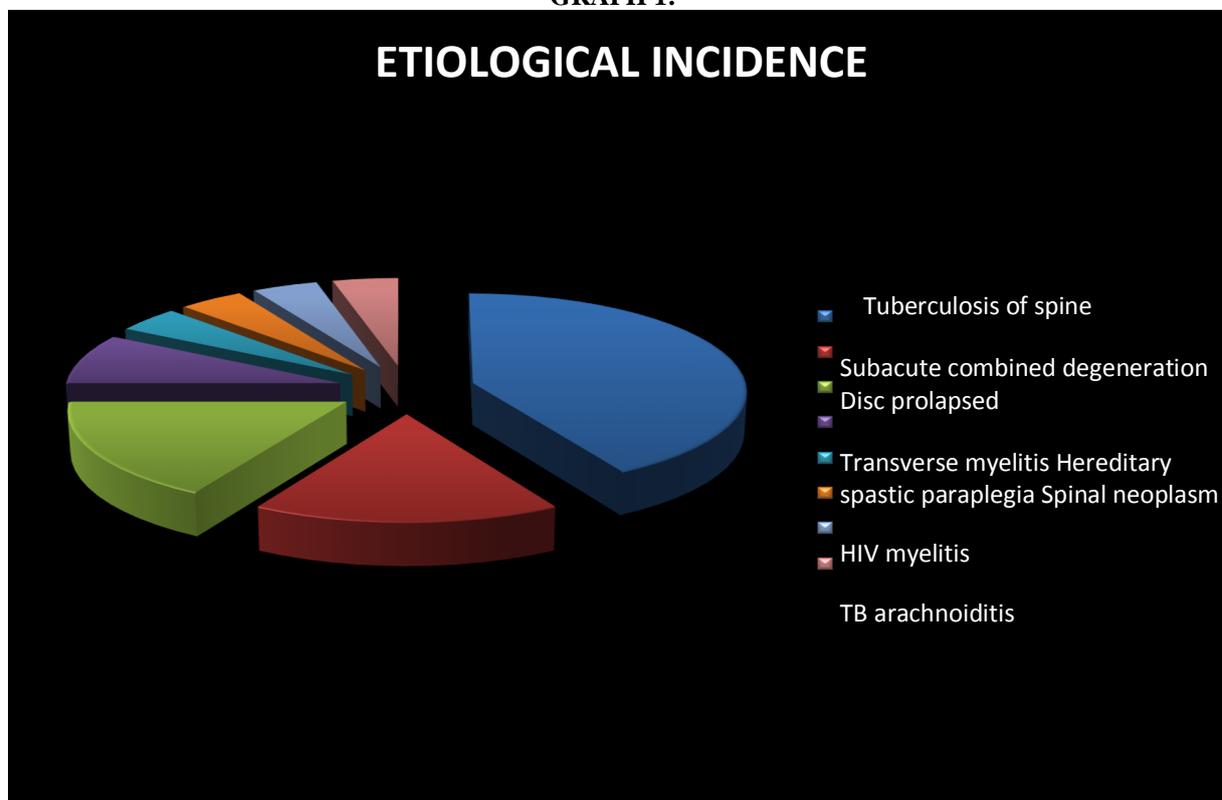
Specific Investigations: MRI spine with brain screening, X- ray spine, CSF analysis, nerve conduction studies were examined. All the collected data were statistically analysed using SPSS software version 18.0. ‘p- value’ was calculated, one way analysis of variance and chi- square test were done wherever applicable.

III. Results:

TABLE:1

ETIOLOGY	NO OF CASES	PERCENTAGE
Tuberculosis of spine	22	44
Subacute combined degeration	8	16
Disc prolapse	8	16
Transverse myelitis	4	8
Hereditary spastic paraparesis	2	4
Spinal neoplasms	2	4
Hiv myelitis	2	4
TB arachnoiditis	2	4

GRAPH 1:



Tuberculosis of spine (40%) was probable etiology and the commonest cause of non traumatic paraparesis. Subacute combined degeneration was the second commonest cause of the same.

IV. Discussion:

The study comprises of 50 cases of non-traumatic paraparesis of spinal cord origin diagnosed by clinical examination & relevant investigations. The majority of cases belong to age groups between 41 to 50 years (36%) and 31 to 40 years (32%). The youngest was 18 years and oldest was 60years. Among the gender ratio, male preponderance with the female; Male : Female =1.8:0.7 onset of weakness was observed that 60% of

patients presented chronically, the rate of progression was recorded as 72% of the patient had gradual progression. Commonest symptoms were symmetrical weakness, sensory symptoms were present in 40 % of the patient's, around 25 cases have bowel and bladder disturbances. The common co- morbid medical condition was Diabetes mellitus (32%). There was prevalence of hypertonia & hyperreflexia. The prominent etiological diagnosis which is the criteria of this study, was observed to be Tuberculosis of spine with the percentage of 44% and a total of 22 patients followed by Subacute combined degeneration with the percentage of 16% and a total of 8 patients among the whole sample size of 50 patients. CSF protein analysis were suggestive of tuberculosis in 10 cases out of 22 cases with the etiological finding of pott's spine. MRI which is considered as the recent advancement in neurodiagnosis helped in accurate evaluation of the disease overcoming the various other investigations including X-ray spine.

V. Conclusion:

In this study, Pott's spine was the commonest cause of non traumatic paraparesis followed by Subacute combined degeneration and least etiological finding observed was Disc prolapse, Transverse myelitis, Hereditary spastic Paraparesis, Spinal neoplasms, HIV myelitis and TB arachnoiditis correspondingly. The limitation of this study was histopathological confirmations were not been obtained, further studies including the pathological investigations are recommended. Though pathological evidence was not obtained for Tuberculosis of spine, most patients showed good response clinically well with Anti tuberculosis drugs.

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