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A CLINICAL STUDY OF NON-TRAUMATIC PARAPLEGIA IN PATIENTS ADMITTED IN ASSAM MEDICAL COLLEGE AND HOSPITAL.

General Medicine

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ABSTRACT

Background: Paraplegia is a common and an important cause of disablement in all age group and in both sexes. In the days of ancient medicine it was most problematic for the physicians and surgeons to treat the cases and they considered it as "Hopeless"(Edwin Smith Papyrus, Breasted, 1930) written 4000 years ago. Paraplegia is caused by variety of diseases of different etiology from cerebral cortex to muscles. But measures should be taken to diagnose every possible cause and to offer best modality of treatment to eliminate the sufferings of patients. **Materials And Methods:** 50 patients of non-traumatic paraplegia were studied at Assam Medical College and Hospital from July 2005 to June 2006. Patients underwent a detailed clinical evaluation followed by laboratory investigations and neuroimaging studies. **Results:** In our study the maximum incidence was in the 4th decade (32%), the next being in the third decade (26%). Out of 50 cases there were 38 males (76%) and 12 females (24%). The occupation of the patients were cultivators (24%), housewife (24%), laborer (18%), student (10%), clerk (8%), teacher (4%), driver (4%), businessman (2%), engineer (2%), peon (2%). Acute onset was observed in 18 cases (36%), subacute onset in 4 cases (8%) and insidious in 28 cases (56%). The etiologies were found to be Transverse myelitis (20%), L.G.B.S (20%), Pott's paraplegia (16%), Lumbar disc prolapse (16%), Spinal tumor (8%), dorsal disc prolapse (4%), spinal arachnoiditis (4%), radiation myelitis (4%). **Conclusion:** We thus conclude that the present study shows acute transverse myelitis to be the commonest cause and spinal tuberculosis the second most common etiology of non-traumatic paraplegia. The patterns of clinical presentation and incidences of paraplegia due to various etiologies in this study bear close resemblance to the ones described by other workers.

KEYWORDS

nontraumatic paraplegia, clinical study

BACKGROUND :

Paraplegia is a common and an important cause of disablement in all age group and in both sexes. In the days of ancient medicine it was most problematic for the physicians and surgeons to treat the cases and they considered it as "Hopeless"(Edwin Smith Papyrus, Breasted, 1930) written 4000 years ago. Records of paraplegia due to spinal injury were available sine 2800 B.C. Paraplegia following a cervical spinal cord injury was the first recorded reference found in the Edwin Smith papyras which was later translated by Henry Breasted [1922] and by Westandarf [1966]. Paraplegia is caused by varieties of disease of different etiology from cerebral cortex to muscles. But measures should be taken to diagnose every possible cause and to offer best modality of treatment to eliminate the sufferings of the patient. Many of the processes affecting the spinal cord may be reversible if recognized and treated early. The mode of onset of paraplegia may be insidious, acute and subacute .The localization of the site of the lesion can be made easily by careful examination of the neurological signs. Further information can be obtained from the radiological, pathological and cerebrospinal fluid analysis. The imaging is of great importance in the diagnosis and to classify the etiology appropriately.

AIMS AND OBJECTIVES :

1) To determine the etiological factors prevalent in and around Dibrugarh contributing to non-traumatic paraplegia.
2) To study the clinical pattern of evolution and presentation of nontraumatic paraplegia.

METHODS :

A hospital based prospective study was conducted in the department of medicine at Assam Medical College and Hospital , Dibrugarh, Assam enrolling 50 patients of nontraumatic paraplegia who fulfilled the inclusion criteria. The study was approved by ethical committee of Assam Medical College and Hospital.

Inclusion Criteria :

1) Age more than 12years.
2) Acute and subacute to chronic onset motor weakness of lower limbs of nontraumatic etiology.
3) The patients with paresis of lower limbs, but yet with objective evidence of motor or sensory findings in the upper limbs.
4) The patients coming to hospital with paraplegia but subsequently developing weakness in the upper limbs during hospital stay.

Exclusion Criteria :

1) Age less than 18years.
2) Patients with traumatic paraplegia.
3) Paraplegia due to muscular dystrophy and due to cerebral causes.
4) Patients not giving consent for the study.

RESULTS :

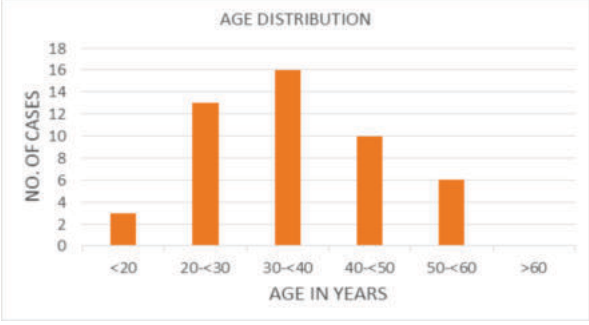

Fig1.1: AGE WISE DISTRIBUTION- The maximum incidence was in the 4th decade[32%], the next being in the 3rd decade [26%].

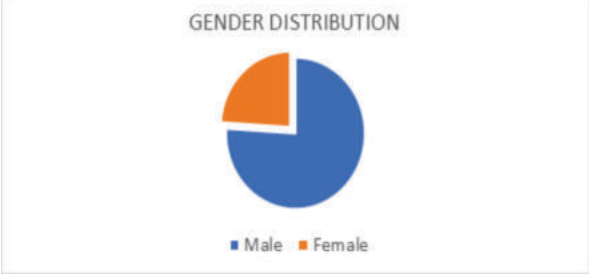

Fig1.2: GENDERWISE DISTRIBUTION: Amongst the male patients

the highest age was 70 years and the lowest 14 years. Average was 41.02. Amongst the female patients the age ranged from 18 to 60 years with an average of 26.4 years.

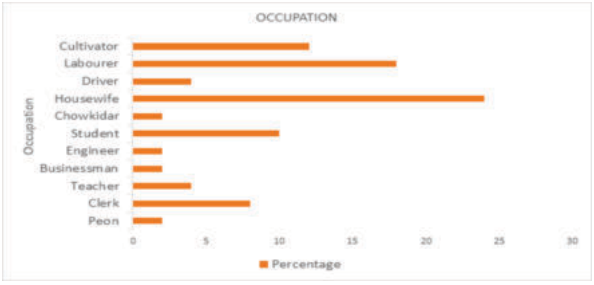

Fig1.3 : In our study it was seen that there was an increased incidence of paraplegia in manual laborers and cultivators, profession demanding strenuous physical exertio

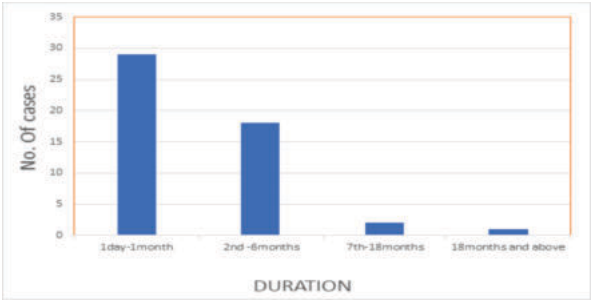

Fig 1.4: Showing the duration of paraparesis in 50 cases. It was shortest in cases of transverse myelitis and LGBS. The duration was found to be longest in cases of cervical disc prolapse and also in Pott's paraplegia.

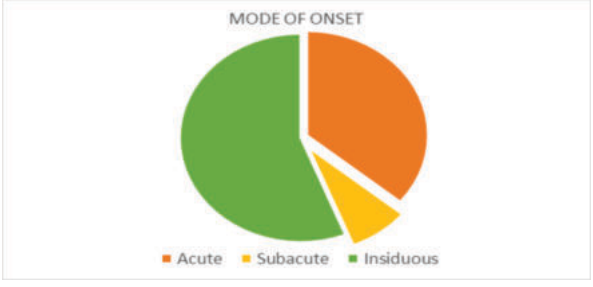

Fig 1.5 : Showing the mode of onset in 50 cases of paraplegia.

TABLE 1 : Symptomatology of 50 cases.

Presenting symptoms	No. of cases	Percentage
Weakness of lower limb	37	74
Difficulty/ inability to walk	9	18
Inability to move lower limbs.	4	8
Pain in the legs	6	12
Back pain	17	34
Deformity of spine	3	6
Fever with myalgia	10	20
Root pain	8	16
Wasting of muscles in the upper limbs	2	4
Neck pain with arm pain	1	2
Paresthesia	24	48
Sphincter disturbance	38	76

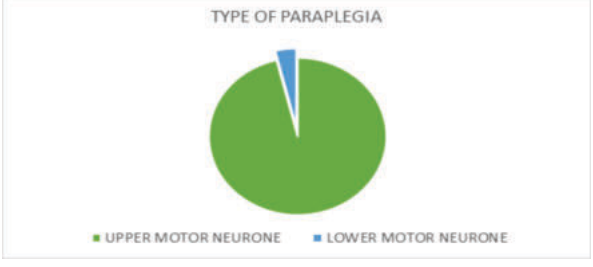

Fig 1.6 : In our study majority of the cases (80%) were of upper motor neurone type and only 20% of the cases were lower motor neurone type.

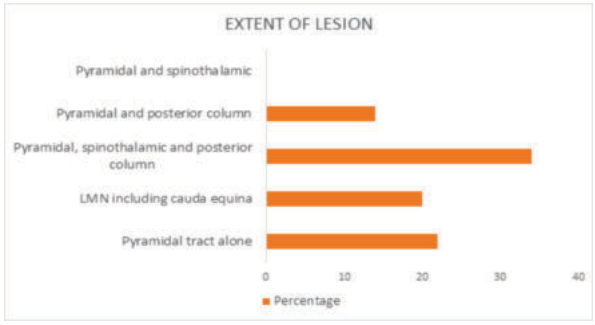

Fig 1.7 : Showing extent of lesions. Involvement of pyramidal tract alone was found in 11 cases (22%), pyramidal and spinothalamic tract in 4 cases (8%). Pyramidal, spinothalamic and posterior column involvement in 17cases (34%); pyramidal and posterior column involvement in 7 cases (14%).

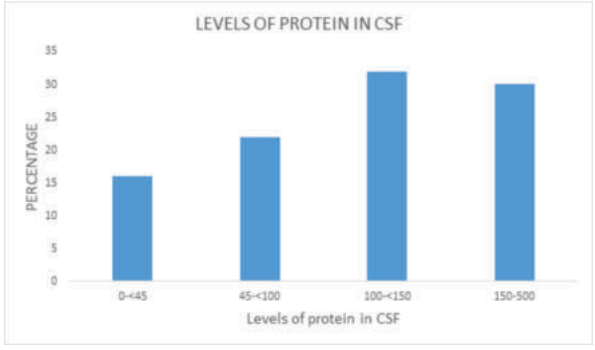

Fig 1.8 : Showing the levels of protein in CSF. Cells in CSF : 16 patients (32%) showed a rise of cells (mostly lymphocytes) in CSF. They consisted of 12 cases of Transverse Myelitis , one case each of spinal metastasis and spinal tumour. 2 cases of LGBS also showed mild pleocytosis.

Table 2 : Showing Different Changes Observed In X-ray Of The Spine In Different Regions.

Finding	No. of cases	Percentage
Tuberculosis of spine	10	20
Spinal metastasis	4	4
PID (lumbar)	3	6
Finding of benign spinal tumour erosion of pedicle / widening of spinal canal	3	6
Spondylotic changes in cervical spine	2	4
PID (dorsal)	1	2
Total	23	46

MYELOGRAM: All the cases were subjected to myelographic investigation, which was helpful in determining the site of lesion in 22 (44%).

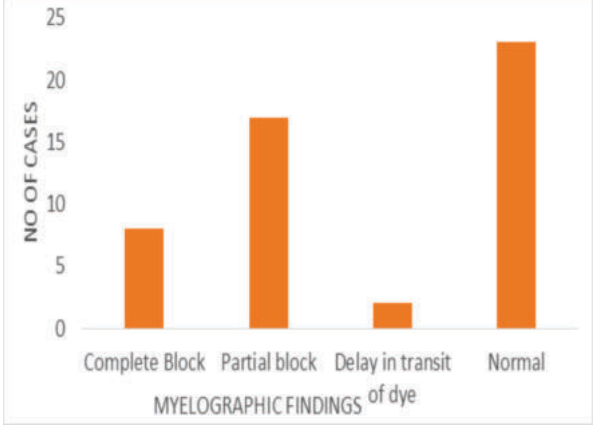

Fig 1.9 : Showing Myelographic findings in 50 cases of paraplegia.

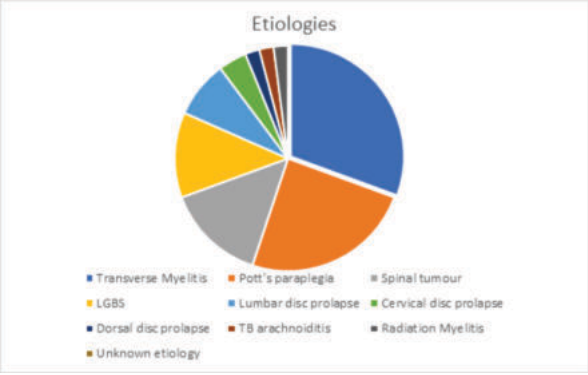

Fig 2.0 : Showing the different etiologies of 50 cases of paraplegia.

DISCUSSION :

In the present study transverse myelitis forms the largest single group with 30% cases. Choudhury et al. (1968) also found transverse myelitis to be the largest single group (16.7%). In our study tubercular disease of the spine constitutes the second largest group with 24%. Tuberculosis was found to be the second largest group in the study of Chaudhury et al. (1968) (15.4%). Cases of the present study came with either an acute or subacute onset. The clinical study appeared acutely in all the 14 cases reported by Mehrotra et al (1966). In our study the clinical picture developed acutely in 13 cases and sub acutely in 2 cases. The average time taken for complete paraplegia was 4.8 days. Bhaskar et al reported it to be 3days in their study.

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