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Cauda Conal Anaplastic Oligodendroglioma– A Case Report

Dr. P.Lakshminarayana[1], Dr. B.P.Sahu[2], Dr. D. Megha[3],
Department of Neurosurgery, Nim's hospital, Punjagutta, Hyderabad, India-500003.
(1. Resident, Department of Neurosurgery, Nim's hospital, Punjagutta, Hyderabad, India)
(2. Professor & HOD, Department of Neurosurgery, Nim's hospital, Punjagutta, Hyderabad, India)
(3. Professor of Pathology, Nim's hospital, Punjagutta, Hyderabad.India).
Corresponding Author: Dr. P.Lakshminarayana

Abstract: *Oligodendrogliomas are the third most common CNS tumour of glial origin. Primary Oligodendrogliomas are very rare spinal cord tumours of intramedullary origin. In the literature only a few cases are reported. These are presented mostly in the old age. These occur most commonly at thoracic cord level and their location at conus caudal level are even rare. We report a case of anaplastic oligodendroglioma(WHO Grade III) in a young aged male patient presenting as a probably fast growing intramedullary spinal cord tumour, which was treated surgically.*

Keywords: *Anaplastic, Cauda equina, Conus medullaris, Intramedullary, Oligodendroglioma, spinalcord .*

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I. Introduction

Oligodendrogliomas are the third most common CNS tumour of glial origin[1]. Both the primary and metastatic(dropmets) of the anaplastic Oligodendrogliomas are slow growing[2,3]. They occurring in the age group of 50-60 years. These tumours are mostly benign. They have been reported to show local infiltration of meninges[4]. They rarely disseminated through CSF[4,5,6]. Spinalcord is a rare site for oligodendroglioma with an incidence of 1-2%. They mostly occur in thoracic cord followed by cervical and lumbar region, Edel man[7]. The percentage of anaplastic oligodendrogliomas varies between 20-51%[8,9].

II. Case Report

A 22year old male presented with lower backache since 6months followed by paraesthesia in both lower limbs more on right side started in foot progressing towards proximally upto groin region from last 4months and noted weakness in right foot from 2 months and not able to walk since 10days with associated urinary incontinence. The patient has no history of trauma or any significant medical illness. CNS examination demonstrated power in both the lower limb at hip and knee level are 4/5, Right Ankle was0/5 and Left Ankle was 3/5,and a decreased sensation in L4,L5,S1 Dermatomal regions in both sides ,more on Right side for pain and crude touch for 50 to 60%. with absent bilateral Ankle reflexes and bilateral knee and plantar reflexes are normal. Routine laboratory investigations and plain radiography of spine was normal. MRI spine revealed the presence of 5.8cm intramedullary mass present at T12 to L1 level which was isointense on T1&T2 weighted sequences with patchy enhancement on contrast. The proximal cord was edematous. Rest of the cord and brain were normal. At surgery a soft suckable tumour was identified and the histopathological examination revealed lesion is hyper cellular with cellular pleomorphism and frequent atypical mitosis with focal areas showing endothelial proliferation. Necrosis is not seen. The lesion is seen entrapping the nerve radicles. IHC Markers GFAP+ve, IDHIR132H=Negative,ATRX+VE(No Loss of expression), Ki -67=20%.
S/O Anaplastic Oligodendroglioma(WHO GRADE-III).

III. Discussion

Intramedullary spinalcord tumours accounts 4-10% of CNS tumours, of which ependymoma is more common in adults and astrocytoma is more common in children, Kelly [10]. Primary spinal cord oligodendrogliomas constitutes 2% of the spinal cord tumors and 1.5% of the central nervous system oligodendrogliomas [11]. They mostly occur in thoracic cord followed by cervical and lumbar region, Edel man [7] . Cauda-conal Spinal cord is the anatomic location with the lowest predilection of oligodendrogliomas [12].

Oligodendroglioma as cause of intramedullary mass are infrequently reported. In 1976, Wober reported a case of intramedullary oligodendroglioma with associated meningocerebral dissemination[13]. In 2007,C. Ramirez [14] described a case of intracranial dissemination from a primary spinal cord anaplastic oligodendroglioma. In 2004 Kostas N.Fountas [15] reviewed the clinical, radiological and pathological characteristics in spinal oligodendrogliomas in paediatric age groups. In 2006, GurkanlarD [16] reported a case of

spinalcord oligodendroglioma with invasion of conus. In general, there is a correlation between age and histological grade and anaplastic tumors(grade III) tend to affect individuals older than those with grade II oligodendrogliomas[8,17,18].

In the present case, patient developed sudden onset of urinary incontinence with difficulty in walking due to weakness in lower extremities probably due to rapid progress of the lesion with conus medullaris invasion. Though most of the tumour was removed on surgery the recovery was not complete. Patient received radiotherapy post operative period. Oligodendrogliomas does not have any specific imaging features. In view of the rarity this case has been reported.

IV. Conclusions

Anaplastic Oligodendrogliomas can also affect the spinal cord without the involvement of brain and has to be considered in the differential diagnosis of intramedullary tumours in young adult patients.

V. Figures

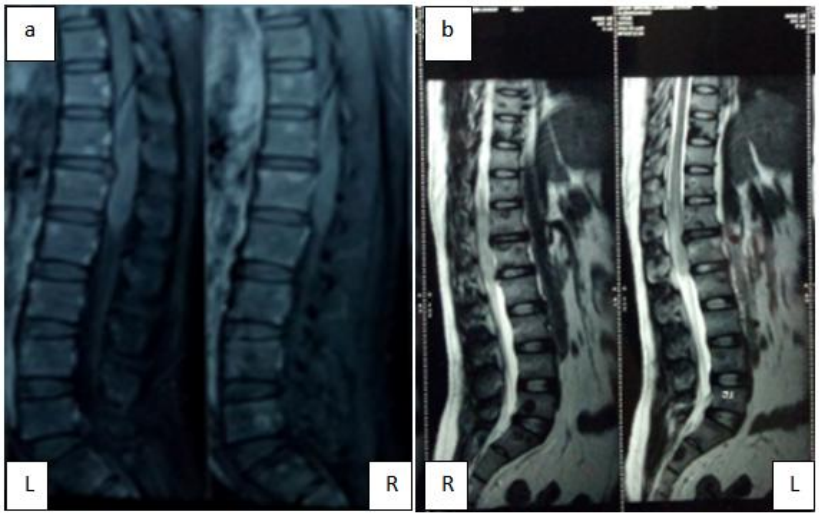

Figure 1:a,b: MRI dorsal spine shows evidence of a iso to hypo intense on T1 & T2 weighted intramedullary mass extending from T12-L1 region showing patchy contrast enhancement and proximal cord edema.

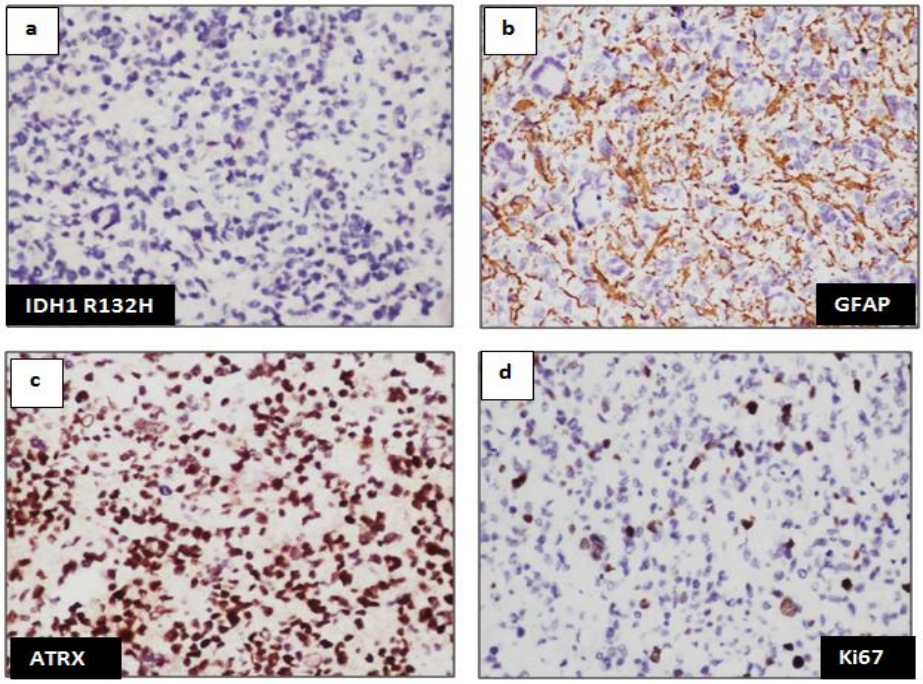

Figure 2:a, b, c, d shows the hypercellularity with cellular pleomorphism, frequent atypical mitoses with endothelial proliferation showing IHC Markers IDH1R132H Negative, GFAP+ve, ATRX +VE(No Loss of expression), Ki -67=20%.

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