ORIGINAL RESEARCH PAPER
Volume - 11 | Issue - 03 | March - 2022 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

THORACIC INTRAMEDULLARY SPINAL LIPOMA: A CASE REPORT WITH REVIEW

Neurosurgery

Prof. (Dr) Mrinal Bhuyan Head of Department of Neurosurgery, Gauhati Medical College & Hospital.

Dr. Nayan Jeet Deka* Senior Resident Department of Neurosurgery, Gauhati Medical College & Hospital.
*Corresponding Author

ABSTRACT

Study design: Case Report
Objective: To report a rare case of Spinal Intramedullary lipoma, its management and outcome.
Background: A 21 year old male presented pain on the back radiating to legs with paraparesis &without bowel and bladder involvement.
Conclusion: Intramedullary lipoma may present late until the physiological reserve depletes. Aggressive removal not recommended unless symptomatic.

KEYWORDS

Spinal lipoma intramedullary paraparesis

INTRODUCTION:

Spinal lipomas are congenital tumors presenting as a slow growing benign tumors. Around 60% are localized intradurally and rest are found extra dural.[1]

When intradural, most of them are extramedullary and are found in the lumbosacral region.

Intradural spinal lipomas are generally associated with neural tube defect.[2]. Isolated spinal lipomas without spinal dyspraphism is rare and only few cases has been reported.[2,3]

Intramedullary spinal lipomas are rare and comprises of 1% of all spinal lipomas. [4] because of their intramedullary location complete surgical excision without sever neurological deficit is difficult.

Case report

Clinical Presentation

A 21 year old boy presented to our institute with history of low back pain for one year radiating to his legs and not responding to medications. He also complained of weakness over bilateral lower limbs which began 8 months back and has been progressing since then. Neurological examination revealed paraparesis of the bilateral lower limbs (MRC Scale 4-/5), lower limb jerks were all brisk with ankle clonus & Babinski's sign positive. Abdominal reflexes were absent in the entire quadrant. The tone of lower limbs was increased however no atrophy of the lower limb muscle. Hypoesthesia below D10 dermatome & loss of joint position change & vibration sense in lower limbs without bowel & bladder involvement.

MRI showed a well-defined T1 & T2 hyperintense intramedullary component extending from D7 to D12 causing severe cord compression along with intradural soft tissue mass(Figure 1). No significant post contrast enhancement seen.

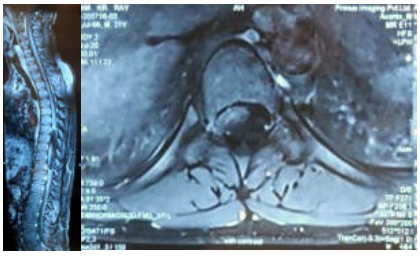

Figure 1: Sagittal and axial MRI

Patient underwent D7-D12 laminectomy. Dura was opened and myelotomy was performed at the thinnest area in the spinal cord. On opening an yellow tumor found displacing the cord to right (Figure 2). As surgical plane between the tumor and the cord not found internal debulking of the tumor was done using CUSA (Cavitron Ultrasonic Aspirator). Dura was close with 4-0 vicryl and laminoplasty done.

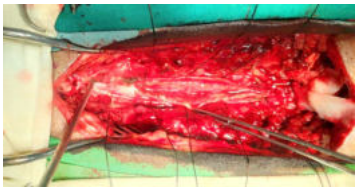

Figure 2: Intraoperative photo

Histopathology examination confirmed the diagnosis of lipoma (Figure 3). Post-operatively patient got relieved of the pain (on day 1) and showed improvement of motor function (day 2). The patient was discharged on post op day 5 and his power is 4/5 on hip and knee, ankle 4-/5 & still exhibited hypoesthesia below D10 dermatome. Bowel and bladder is normal.

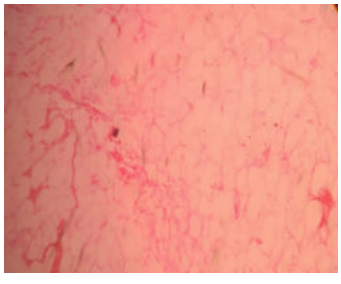

Figure 3: Histology showing lipoma

DISCUSSION

Etiology of spinal lipoma is not clear. First hypothesis is a 'developmental error theory' where ther are misplaced adipocytes during formation of the neural tube [2-10]. This explains the dorsal location of lipoma without dysraphism. The 'metaplasia theory' , which suggest connective tissue metaplasia leading to deposition of fats in the dura.[8,9] Third is the 'hemartomatous theory'; fat tissue can include peripheral nerve, dermoid cyst, skeletal muscles , etc. which originates from the ectodermal cells. Fourth hypothesis is that these adipocytes are actually derived from the cells giving raise to spinal vessels.[12]

The clinical course of spinal lipoma is characterized by slow progression of symptoms with slow ascending spastic monoperesis or paraparesis. Due to the slow growth the cord can accommodate without functional deficit, until a point where it eventually reach of no physiological reserve. Spinal lipoma without dyraphism has a very small space to expand hence presents early.[13]

CONCLUSION

Spinal lipomas when found incidentally should be left alone if asymptomatic because these are congenital lesions and are not actually a true neoplasm.[5] Aggressive removal of mass is also not recommended and sometimes decompression suffice.[5,11]

REFERENCES

1. Erdogan B, Bavbek M, Altınors N, Aydin MV, Sen O, AgildereM, Caner H: Cervical intramedullary lipoma not associated with spinal dysraphism: Case report. Turkish Neurosurgery12:46-49, 2002.
2. Lee M et al. Intramedullary spinal cord lipomas. JNeurosurg 1995; 82: 394-400.
3. Kujas M, Sichez JP, Lalam TF, Poirier J. Intradural spinallipoma of the conus medullaris without spinal dysraphism. Clin Neuropathol 2000; 19: 30-33
4. Caram PC, Carton CA, Scarcella G Intradural lipomas of the spinal cord; with particular emphasis on the intramedullary lipomas. J Neurosurg 1957;14:28-42
5. Dyck P. Intramedullary lipoma. Diagnosis and treatment.Spine 1992; 17: 979–981.
6. Razack N, Jimenez OF, Aldana P, Ragheb J. Intramedullaryholocord lipoma in an athlete: case report. Neurosurgery1998; 42: 394–396.
7. Patwardhan V, Patanakar T, Armao D, Mukherji SK. MRimaging findings of intramedullary lipomas. Am J Roentgenol2000; 174: 1792–1793.
8. Ammerman BJ, Henry JM, De Girolami U, Earle KM.Intradural lipomas of the spinal cord. A clinicopathologicalcorrelation. J Neurosurg 1976; 44: 331–336.
9. Matsui H, Kanamori M, Miaki K. Expansive laminoplasty for lumbar intradural lipoma. Int Orthop 1997; 21: 185–187.
10 Muraszko K, Youkilis A. Intramedullary spinal tumors of disordered embryogenesis. J Neurooncol 2000; 47: 271–281.
11. Kodama T, Numaguchi Y, Gellad FE, Sadato N. Magnetic resonance imaging of a high cervical intradural lipoma.Comput Med Imag Graph 1991; 15: 93–95.
12 Catala M. Embryogenesis. Why do we need a new explanation for the emergence of spina bifida with lipoma? Child Nerv Syst 1997; 13: 336–340.
13) Timmer FA, van Rooij WJ, Beute GN, Teepen JL. Intramedullary lipoma. Neuroradiology 1996; 38: 159–160.