EPIDURAL EWING'S SARCOMA- A CASE REPORT

Aman Agarwal[1], Rohin Bhatia[2]

[1]Senior Resident, Department of Neurosurgery, Mahatma Gandhi Institute of Medical Sciences, Jaipur, Rajasthan.
[2]Professor and Unit Head, Department of Neurosurgery, Mahatma Gandhi Institute of Medical Sciences, Jaipur, Rajasthan.

HOW TO CITE THIS ARTICLE: Agarwal A, Bhatia R. Epidural ewing's sarcoma- a case report. J. Evid. Based Med. Healthc. 2019; 6(8), 621-622. DOI: 10.18410/jebmh/2019/128

PRESENTATION OF CASE

A 28 years old male patient, reported in the Neurosurgery OPD of Mahatma Gandhi National Institute of Medical Sciences (MGM Hospital), Jaipur, Rajasthan. His chief complaint was lower back pain. He also complained of weakness in lower limbs bilaterally with difficulty in walking. Magnetic Resonance Imaging performed to know the underlying cause followed by histopathology findings for the final diagnosis. MRI revealed mass extending from L4 to S3.

Clinical manifestations in case of Extradural Ewing's Sarcoma, comprise mainly of back pain with or without radicular pain, paresis of one or both legs, sensory disturbances, and bladder and bowel dysfunction.[1, 2]

In our case, on physical examination we found decreased muscle power and numbness of lower extremities was clearly identified. The neurological examination revealed absence of ankle jerk bilaterally, Straight leg Raising Test bilaterally showed 40 degrees and also showed reduced motor power of the Extensor Hallucis Longus (EHL) bilaterally to grade 3/5. The patient showed neurological deficit without bladder and bowel dysfunction.

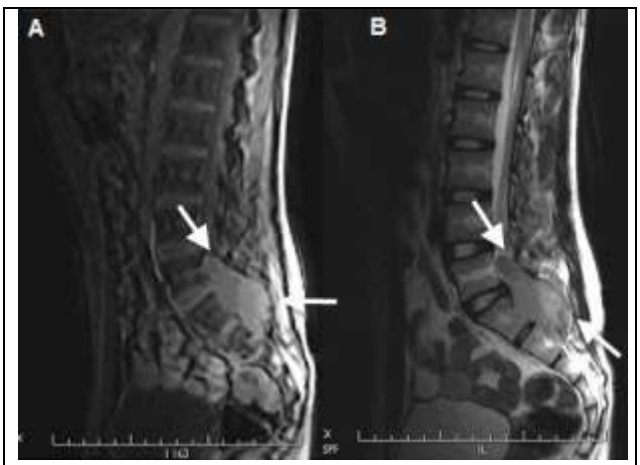

Figure 1a and 1b. T1 and T2 Weighted Sagittal Section of L-S Spine

Financial or Other, Competing Interest: None.
Submission 12-12-2018, Peer Review 23-01-2019,
Acceptance 05-02-2019, Published 25-02-2019.
Corresponding Author:
Dr. Aman Agarwal,
Department of Neurosurgery,
Garg Hospital, Gol Ghar,
Gandhi Gali, Gorakhpur- 273001,
Uttar Pradesh.
E-mail: amanagarwalgkp@gmail.com
DOI: 10.18410/jebmh/2019/128

DIFFERENTIAL DIAGNOSIS

- Metastatic Neuroblastoma
- Malignant Lymphoma of Bone
- Round Cell Variants of Rhabdomyosarcoma
- Mesenchymal Chondrosarcoma
- Leukemia
- Small-Cell Osteosarcoma

PATHOLOGICAL DISCUSSION

Magnetic Resonance Imaging for lumbo-sacral spine was performed. MRI showed an extradural mass extending from spinal level L4 to S3. The mass appeared hyper-intense on T1-weighted and iso-intense to hyper-intense on T2-weighted images. According to the review literature by Mark Bustoros et al. the lumbar region is the most common site followed by the thoracic spine and cervical spine, with sacral segment being the least common.[3]

MRI can make early diagnosis of the tumours around the spinal cord, enabling early treatment though it is non-specific. MRI in our case helped in determining the extent, location and involvement of the surrounding structures but the final diagnosis of the tumour was made on the basis of histopathology findings.

After the tumour was delineated on MRI, laminectomy was necessary with total resection of the lesion. A reddish, vascular, firm tumour extending from L4 to S3 was revealed during surgery and the section of it was send for the histopathological findings.

Histopathology of a section revealed fibrofatty tissue and fibrocollagenous component composed of small round cells at places having vacuolated cytoplasm. There is presence of mitotic activity and the tumour is infiltrating the surrounding fibrofatty tissue. Morphology is of round cell malignant neoplasm, which favours: 1) Mesenchymal Chondrosarcoma, 2) PNET/Ewing's Sarcoma.

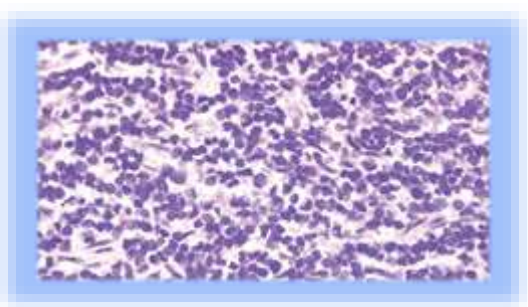

Figure 2

DISCUSSION OF MANAGEMENT

The recorded and oldest form of curative treatment for cancer is surgery. In Ewing's sarcoma surgery is performed for making diagnosis, treatment, second-look procedures and reconstruction. The treatment can be primary, adjuvant, salvage and palliative. Primary surgery was the preferred treatment for many years in which both the tumour and large areas around the tumour site are removed. A greater incidence of local recurrence and higher mortality is seen in partially resected tumours therefore it is important to remove most of the tumor.[4,5] An incision was taken with right sided Hemilaminectomy from L4 to S3 level for the complete removal of the lesion. During surgery subtotal removal of space occupying lesion was done thus obtaining cord and root decompression hence relieving the symptoms.

For epidural spinal cord compression, the corticosteroids are considered the first line of treatment.[6] The corticosteroids reduce tumour and spinal cord oedema and have shown tumoricidal effects[7]. Before any definitive therapies are initiated it is recommended to administer the corticosteroids as soon, as the diagnosis of epidural cord compression is made to improve or stabilize neurological deficits.[6, 7, 8]

In our case after surgery, the patient was given I.V. methylprednisolone dosage of 1g in 500pp of normal saline over 6 hours for three days and antibiotic was prescribed with follow up after two weeks.

In follow up, patient condition was improved. He came walking. On further examination, the Straight Leg Raising test showed 60 degrees bilaterally, there was improved motor power of the Extensor Hallucis Longus bilaterally that scored grade 5/5 and only right angle jerk was absent.

Patient will undergo radiotherapy if there are recurrent symptoms at follow up.

The case reported in our clinic is a rare case of epidural Ewing's Sarcoma, involving the rare spinal region. MRI was considered key to diagnostic evaluation. Complete removal of the lesion was made and further treatment with corticosteroids given. The patient showed improvement in his condition in the follow ups.

FINAL DIAGNOSIS

Epidural Ewing's Sarcoma.

Figure 3a) Improved Walking, 3b) Healed Suture Line, 3c) And 3d) Patient Was Able to Balance on Both the Lower Limbs After Two Weeks of Follow Up.

REFERENCES

[1] Goktepe AS, Alaca R, Mohur H, et al. Paraplegia: an unusual presentation of Ewing's sarcoma. Spinal Cord 2002;40(7):367-369.

[2] Kaspers GJ, Kamphorst W, Van de Graaff M, et al. Primary spinal epidural extraosseous Ewing's sarcoma. Cancer 1991;68(3):648-654.

[3] Bustoros M, Thomas C, Frenster J, et al. Adult primary spinal epidural extraosseous Ewing's sarcoma: a case report and review of the literature. Article ID 1217428, Case Rep in Neurol Med 2016;2016:p. 8.

[4] Harimaya K, Oda Y, Matsuda S, et al. Primitive neuroectodermal tumour and extraskeletal Ewing sarcoma arising primarily around the spinal column: report of four cases and a review of the literature. Spine 2003;28(19):e408-e412.

[5] Kim SW, Shin H. Primary intradural extraosseous Ewing's sarcoma. J Korean Neurosurg Soc 2009;45(3):179-181.

[6] Hammack JE. Spinal cord disease in patients with cancer. Continuum (Minneap Minn) 2012;18(2):312-327.

[7] Cole JS, Patchell RA. Metastatic epidural spinal cord compression. Lancet Neurol 2008;7(5):459-466.

[8] Ruppert LM. The role of corticosteroids in the treatment of metastatic epidural spinal cord compression. Rehabilitation Medicine Service, Memorial Sloan Kettering Cancer Center-Sillerman Center for Rehabilitation, New York, USA. 2013.