

ROMANIAN
NEUROSURGERY

Vol. XXXIV | No. 2 June 2020

Solitary plasmacytoma of occipital bone

Rajneesh Misra,
Sushil Kumar,
Sandeep Sharma,
Rohan Sinha



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Rajneesh Misra¹, Sushil Kumar¹,
Sandeep Sharma¹, Rohan Sinha²

¹ Dept. of Neurosurgery, St. Stephens Hospital, Delhi, INDIA

² Jaypee Hospital, Noida, UP, INDIA

ABSTRACT

We report a case of a 35-year-old male who presented with a pulsatile swelling in the posterior parieto-occipital area. CT and MRI revealed an extra-axial mass. Gross total resection was performed. Histologically it was found to be a plasmacytoma. No recurrence has been noted in the last 48 months of follow up.

INTRODUCTION

Plasma cell neoplasm is characterized by proliferation of single clone of plasma cells. Solitary plasmacytoma of skull bone in a young adult is very rare, it is hence being reported.

CASE REPORT

A 35-year-old male presented with headache, vomiting and decreased vision and swelling in the occipital region. The swelling had appeared about 3 days after a fall sustained 6 months back. It had started as a small swelling but had since then gradually increased in size.

On examination, the patient was conscious, alert and oriented. He had a 6x4 cm sized cystic swelling over the left parieto-occipital region. The swelling had irregular margins and had a smooth surface. Its consistency was solid with areas of cystic change. There was no pulsation or tenderness. CT scan revealed an osteolytic solid mass. MRI showed hyper-intense lesion on T1 with enhancement on contrast. It had mixed intensity on T2. Laboratory investigations showed a hemoglobin of 15.9 g/dL, total WBC count was 8700/microL, differential count P52L35M8E4B1, and platelet count of 2.37 lakhs /dL. There was no evidence of hypercalcemia. No M component was detected in the serum protein electrophoresis.

The patient underwent craniotomy under general anesthesia in Jan 2016. The tumor was purple in color, nodular, vascular and separable from the underlying dura. Margins of the bone were nibbled and cranioplasty with methyl meth-acrylate was done in the same sitting. Histopathology revealed the diagnosis of plasma cell tumor. He was given a course of radiotherapy. The patient was planned for bone

Keywords
plasmacytoma,
skull,
solitary



Corresponding author:
Rajneesh Misra

MS, Mch.
Dept. of Neurosurgery,
St. Stephens Hospital, Delhi, India

misra_rajneesh@yahoo.com

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ISSN online 2344-4959
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Neurosurgery



First published
June 2020 by
London Academic Publishing
www.lapub.co.uk

marrow aspiration which he refused. Skeletal survey did not reveal any other lesion. There was no evidence of recurrence in the last 45 months.

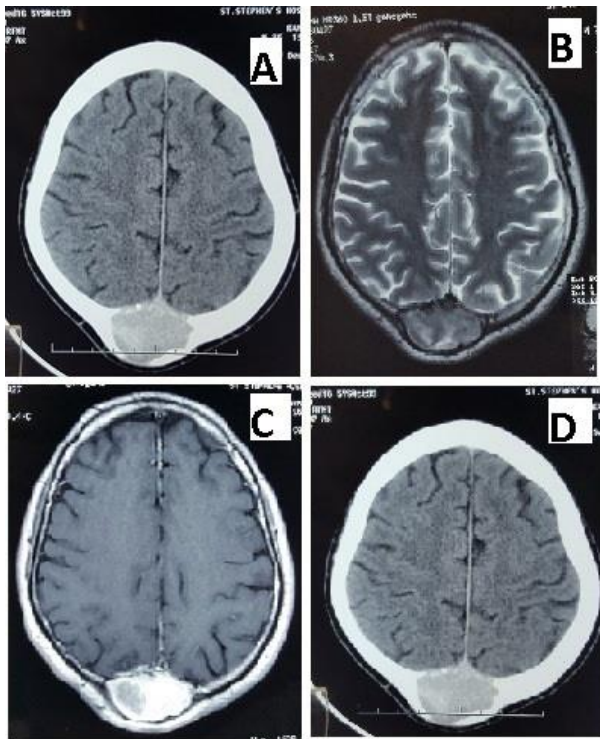


Figure 1.

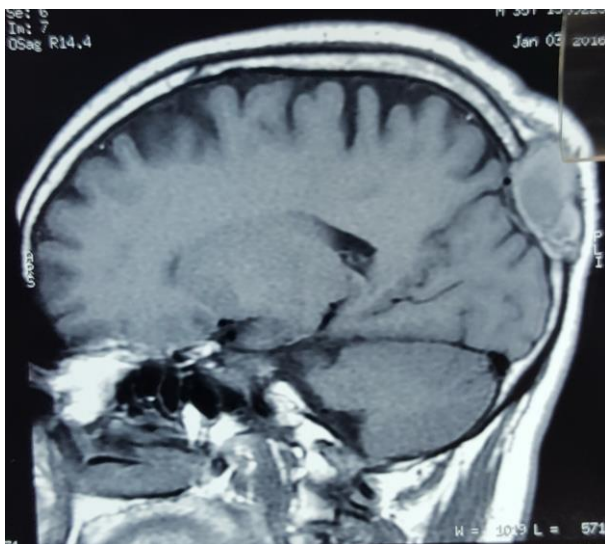


Figure 2.

DISCUSSION

Solitary plasmacytoma of the skull without signs of multiple myeloma is a rare entity and only a few cases have been reported in the literature. ⁽¹⁾ It may

involve cranial vault, skull base or orbit. Symptoms and signs are non-specific and usually lack neurological deficits. The diagnostic characteristics are based on the presence of radiological solitary skull lesion, histological evidence of plasma cells, fewer than 5% plasma cells in the bone marrow aspirate, less than 24mg/dl monoclonal protein in the serum, urine negative for Bence-Jones proteins and no evidence of hypergammaglobulinemia, hypercalcemia or anemia and no recurrence in 2 years of follow up. ⁽²⁾

Usual presentation of the plasmacytoma of skull is as a painless or painful lump without any neurological deficit which depends upon the size and location of the tumor. ⁽³⁾ Cosmetic skull deformity is usual reason for referral to neurosurgeon.

Total surgical resection followed by radiotherapy has been advocated as effective in managing the solitary plasmacytoma. ⁽¹⁾ Arienta et al. report that if total resection has been achieved, then radiotherapy should be reserved for the case of tumor recurrence. ⁽⁴⁾ Furthermore, there are reports of complete cure after biopsy and radiotherapy because plasma cell neoplasms are exquisitely sensitive to radiation. ⁽⁵⁾

The lesion can be highly vascular. ⁽⁶⁾ Preoperative embolization has been resorted to in order to reduce vascularity. ⁽⁷⁾ Craniectomy and cranioplasty is recommended because of high recurrence rate from the residual tumor cells on the involved bone surface. ⁽⁸⁾

Computed tomography reveals destructive well demarcated soft tissue mass with peripheral bony fragments. Usually, the lesion is isointense on T1WI and T2WI and enhances on contrast administration in both CT and MRI. However, in our patient it was slightly hyperdense on CT and slightly hyperintense on T1W1 with mixed attenuation on T2WI. In the absence of early diagnosis of multiple myeloma, the lesion can be misdiagnosed as a meningioma, lymphoma or even myxoma.

DECLARATIONS

Conflict of interest: None

Acknowledgements: None

REFERENCES

1. Singh AD, Chacko AG, Chacko G, Rajshekhar V. Plasma cell tumors of the skull. *Surg Neurol* 2005;64:434-8.

2. Tanaka M, Shibui S, Nomura K, Nakanishi Y. Solitary plasmacytoma of the skull: A case report. *Jpn J Clin Oncol*. 1998;28(10):626-630.
3. Jacquet G, Vuillier J, Viennet A, Godard J, Steimle R. Solitary plasmacytoma simulating pituitary adenoma. *Neurochirurgie* 1991;37:67-71.
4. Arienta C, Caroli M, Ceretti L, Villani R. Solitary plasmacytoma of the calvarium: Two cases treated by operation alone. *Neurosurgery* 1987;21:560-3.
5. Strojan P, Soba E, Lamovec J, Munda A. Extramedullary plasmacytoma: Clinical and histopathologic study. *Int J Radiat Oncol Biol Phys* 2002;53:692-701.
6. Alessandro G, Alfonso C, Marzia D, et al. Plasmacytoma of the skull. *Eur J Haematol* 2011;88:369.
7. Kuo Y, Huang W, Wu J (November 01, 2018) Surgical Treatment for a Giant Solitary Plasmacytoma with Skull Erosion. *Cureus* 10(11): e3535. doi:10.7759/cureus.3535
8. Bindal AK, Bindal RK, van Loveren H, Sawaya R. Management of intracranial plasmacytoma. *J Neurosurg* 1995 83:218-21.