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Central Nervous System Relapse of Multiple Myeloma: A Case Report

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Introduction

- Multiple myeloma (MM) is a hematological malignancy resulting from plasma cell dyscrasia, which causes an overabundance of aberrant monoclonal antibodies termed M protein. Plasma cells typically collect in bone marrow, but uncommon extramedullary MM involves lymph nodes, liver, spleen, kidney, and other solid organs in 10% to 16% of patients.

Aim

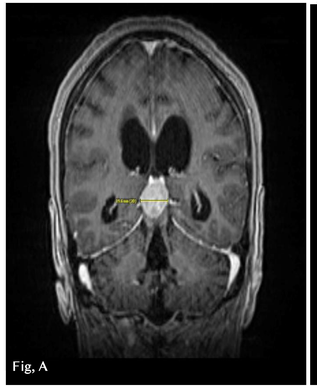
- We present a unique instance of MM relapse in the central nervous system (CNS) in a previously treated patient.

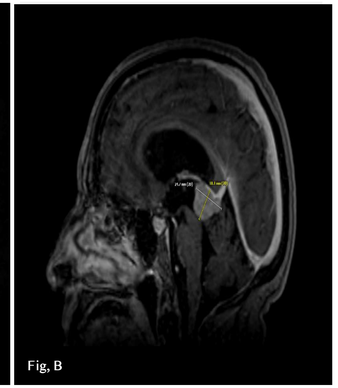
Case Description

- A 70-year-old female presented to the primary clinic with complaints of intermittent dizziness, headache, and near-syncope for one-week duration.
- Her medical history was significant for MM (IgA lambda subtype) in remission, completing maintenance therapy 18 months before this presentation.

Case Description

- Her recent blood analysis showed values in reference range, including hemoglobin, creatinine, IgA, and light chain ratio, although she had an M protein of 0.2 g/dL.
- Her physical examination showed an imbalance with walking and no other localizing neurological signs. MRI brain revealed **a 1.8 x 2.5 x 2 cm mass arising from the pineal gland with a resultant mass effect leading to ventriculomegaly and obstructive hydrocephalous.**
- An emergent external ventricular drain was placed, and she underwent resection for a **pineal gland tumor**. Pathology revealed neoplastic plasma cells positive for CD138, MUM1, CD56, CD45, and lambda light chain restriction. Staining for synaptophysin, chromogranin A, pan-cytokeratin, GA5, EBER, kappa, CAM 5.2, and INSIM-1 were negative.


Fig, A


Fig, B

Fig, A and B revealing a 1.8 x 2.5 x 2 cm mass arising from the pineal gland and mass effect leading to supratentorial ventriculomegaly and obstructive hydrocephalous.

- Post-surgery, her neurological symptoms improved significantly, and she received consolidation radiation therapy to the surgery site. PET imaging revealed no abnormal uptake and bone marrow biopsy showed no involvement of plasma cell neoplasm.

Discussion

- Diagnosis of MM requires ≥10% clonal bone marrow plasma cells or plus evidence of one or more MM-defining events (CRAB criterion), bone marrow clonal plasmacytosis ≥60%, serum involved/uninvolved free light chain ratio ≥100 or >1 focal lesion on MRI.
- CNS involvement of MM is extremely rare, and pineal gland involvement has only been reported in one patient and another identified in a patient after autopsy.
- The actual incidence of CNS involvement could be underreported due to the lack of recommended CNS screening in patients with MM.
- Our case **highlights the importance of brain imaging in these patients with neurological symptoms.**

References

1. Torres M, Bazer D, Kowalska A. BSBM-04 MULTIPLE MYELOMA METASTASIS TO THE PINEAL GLAND: A CASE REPORT FROM LONG ISLAND, NEW YORK, USA. Neuro-Oncology Advances [Internet]. 2023 Aug 1;5(Supplement_3):iii1. Available from: https://doi.org/10.1093/noajnl/vdad070.002
2. Umahara T, Kikawada M, Arai H, Iwamoto T, Takasaki M, Hirabayashi Y, et al. [An autopsy case of multiple myeloma with pineal body and spinal cord dura mater infiltration]. PubMed [Internet]. 1997 Jul 1;49(7):655–8. Available from: https://pubmed.ncbi.nlm.nih.gov/9234255

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