A Rare Diagnostic Challenge: IgM Kappa Multiple Myeloma Mimicking Vertebral Metastasis After Prostate Cancer

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Introduction

IgM multiple myeloma (IgM-MM) is a rare plasma cell neoplasm (<1% of MM cases) requiring differentiation from Waldenström macroglobulinemia (WM) (1,3). IgM-MM is characterized by osteolytic bone lesions and plasma cell infiltration, whereas WM typically presents with lymphoplasmacytic infiltration and MYD88 mutation positivity (4).

Prostate cancer frequently metastasizes to bone, particularly the vertebral column, and lesions are usually osteoblastic (5). However, rarely, vertebral lesions may represent a second hematologic malignancy (2).

Objective

To present a rare case of IgM kappa MM initially misdiagnosed as vertebral metastasis in a patient with treated prostate cancer.

Case

A 72-year-old male with low-risk prostate adenocarcinoma (Gleason 3+3, T2N0) received hormonal therapy and radiotherapy, achieving remission.

One year later, he developed back pain. Imaging revealed vertebral lesions (T6–T8) and a pathological fracture, interpreted as metastatic disease, and palliative radiotherapy was administered. However, low PSA levels and absence of PSMA uptake weakened the likelihood of metastasis.

Evaluation for pancytopenia revealed elevated total protein, hypoalbuminemia, and a monoclonal IgM spike (M-protein: 5600 mg/dL). Bone marrow biopsy demonstrated diffuse kappa-restricted plasma cell infiltration. These findings, together with osteolytic lesions, established the diagnosis of IgM kappa MM. WM was excluded based on clinical and morphological findings.

Discussion

This case highlights the diagnostic challenge between metastatic bone disease and secondary hematologic malignancies.

Prostate cancer metastases are typically osteoblastic and associated with PSA progression (5). In contrast, osteolytic lesions with cytopenia should prompt evaluation for plasma cell dyscrasias (3).

Conclusions

Vertebral lesions in patients with prior prostate cancer should not always be presumed metastatic.

In the absence of PSA progression, PSMA uptake, and in the presence of cytopenia, alternative diagnoses such as IgM-MM should be considered. Accurate diagnosis requires comprehensive biochemical and histopathological evaluation (2).

References

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