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Case Report

68-Ga PSMA PET/CT Accurately Targets Petrous Temporal as the Cause of Diplopia in a Patient with Temporal Lobe Epilepsy: Proves to be a Game Changer

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Introduction

Temporal lobe epilepsy is the commonest seizure disorder and affects approximately fifty million people worldwide. While temporal lobe epilepsy can be successfully treated with medication or surgery. If properly managed through medications and lifestyle adaptations, people with seizures can live a full life. Prostate cancer is the most common cancer and significant cause of mortality in men [1]. It can present as localized lesions or spread to lymph +nodes, bones and lungs. Here we report 69- years-old man with history of temporal lobe epilepsy presented with persistent diplopia. The ophthalmology examination was normal. Later he developed headache, fatigue, back pain and difficulty in passing urine. Routine biochemical parameters and imaging performed. The prostate was bulky and serum PSA was normal. MRI pelvis showed suspicious prostate lesions. 68 Gallium PSMA PET CT was performed. The imaging revealed wide osseous metastases, including involvement of the right petrous part of the temporal bone. The case had a history of temporal lobe epilepsy and had experienced. originally presenting with diplopia, he lately complained of headache, fatigue and backache. Ga 68 Gallium PSMA imaging unveiled extensive bone metastases and patient concluded targeted radiotherapy with improvement in clinical conditions. Prostate cancer generally spreads through hematogenous routes, with bone being the most common [2,3]. This case displayed signs of central nervous system with history of psychomotor seizures, cause remained unconfirmed [4]. To add to our knowledge, this case represents the first proved case of cranium base metastases from prostate cancer with temporal lobe epilepsy in setting of normal PSA levels **(Figure 1).**

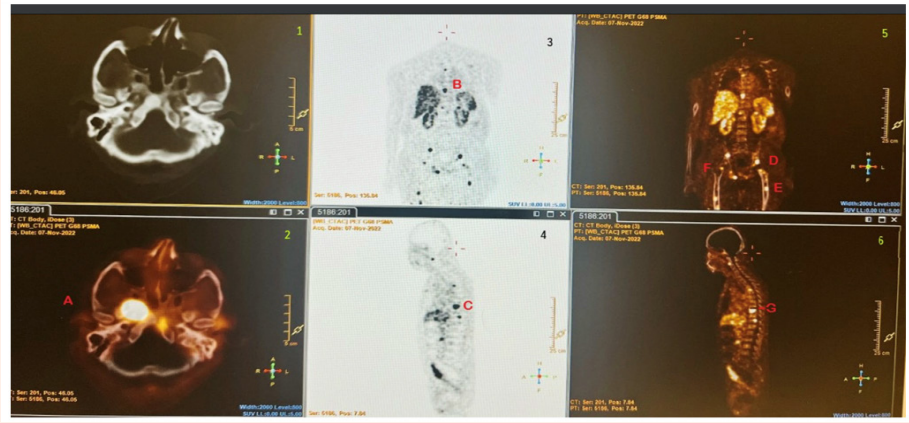

Figure 1: 68 Ga-PSMA PET/CT revealed hypermetabolic sclerotic ossous metastatic deposits, A) Right petrous temporal bone estimated SUV Max measuring 12.84 B) Multiple thoracolumbar vertebrae, C) D8 SUV Max 6.8.D) D10 SUV Max 6.43.D) Acetabulum (SUV Max 3.58) E) left proximal femur SUV max 5.4 F) Neck of right femur (SUV Max 3.92) G. D9 SUV max 6.3.

The management plan involved a comprehensive approach, combining docetaxel, androgen deprivation (leuprolide), palliative radiation, and enzalutamide conservation. Ga 68 Gallium PSMA played a vital part in assessing complaint burden and optimizing further multimodality management. This case emphasizes the significance of early and regular whole- body Ga 68 Gallium PSMA imaging to identify metastatic deposits and enhance treatment planning in spite of normal serum PSA levels [5]. Ga 68 Gallium PSMA whole body PETCT in the clinical setting of normal serum PSA levels, can serve as one stop shop modality to delineate primary malignancy, initial staging and follow up of patients for therapy response assessment.

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