

Acute Rise in Prostate Specific Antigen Found to have Isolated Brain Metastasis from Recurrent Prostate Adenocarcinoma: Case Report

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Background

Prostate cancer is the most common cancer in American men and the leading cause of cancer death. One out of five men will be diagnosed with prostate cancer and the prognosis is encouraging depending on the stage of diagnosis. Recurrence can happen, however, it rarely occurs with metastasis to the brain without signs of systemic disease.

Case Report

- We present a 67 year old male with past medical history of prostate cancer treated with external beam radiation and in remission for the past six years, type 2 diabetes mellitus, hypertension and hyperlipidemia who went to an outside hospital for intermittent confusion, difficulty with activities of daily life and memory impairment for five days prior to admission.
- A head computed tomography (CT) scan was performed and showed a large well-circumscribed mass with vasogenic edema and mass effect in the left parietal lobe. Patient was subsequently started on dexamethasone and levetiracetam and sent to our facility for further evaluation
- Patient received left sided craniotomy and resection of the brain lesion. Biopsy was unexpectedly consistent with prostate adenocarcinoma.
- Outpatient workup for acute rise in prostate specific antigen (PSA) for the past year. Had a fluciclovine F18 injected positron emission tomography- computed tomography (PET-CT) and a whole body nuclear medicine bone scan which was unremarkable.
- PET-CT scan was noted to only evaluate from the base of skull and down to his mid- thighs avoiding further evaluation for brain metastasis.
- Patient was stable and recovering well post surgery with some dysarthria and expressive aphasia. Patient was discharged for further outpatient management with hematology oncology, urology and radiation oncology.

Results

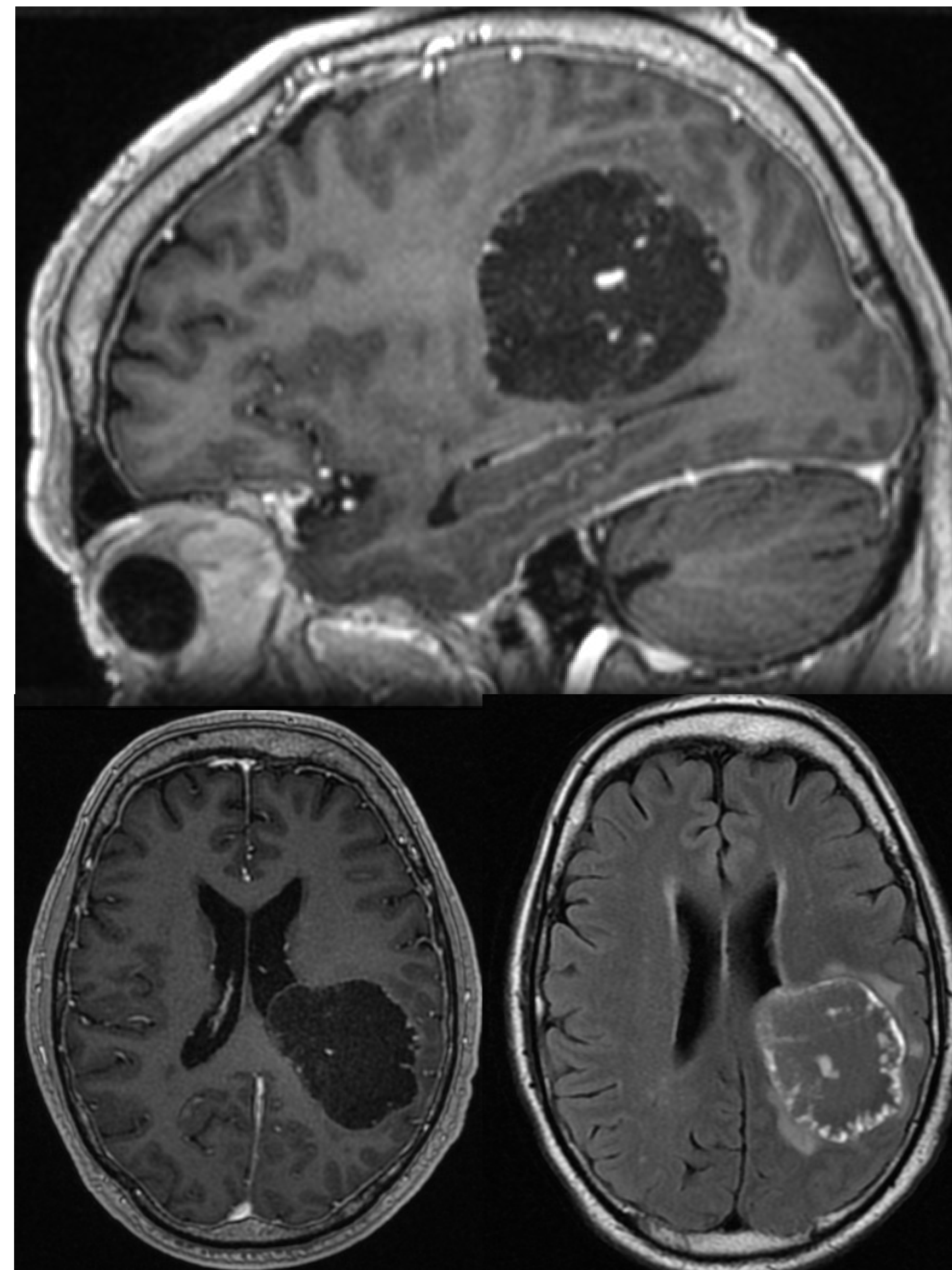


Figure 1: MRI of large left posterior cerebral parenchymal lesion approximately 5.4 x 4.8 x 4.4 cm with mass effect and surrounding vasogenic edema and sulcal effacement of left parietal lobe

PSA Trends

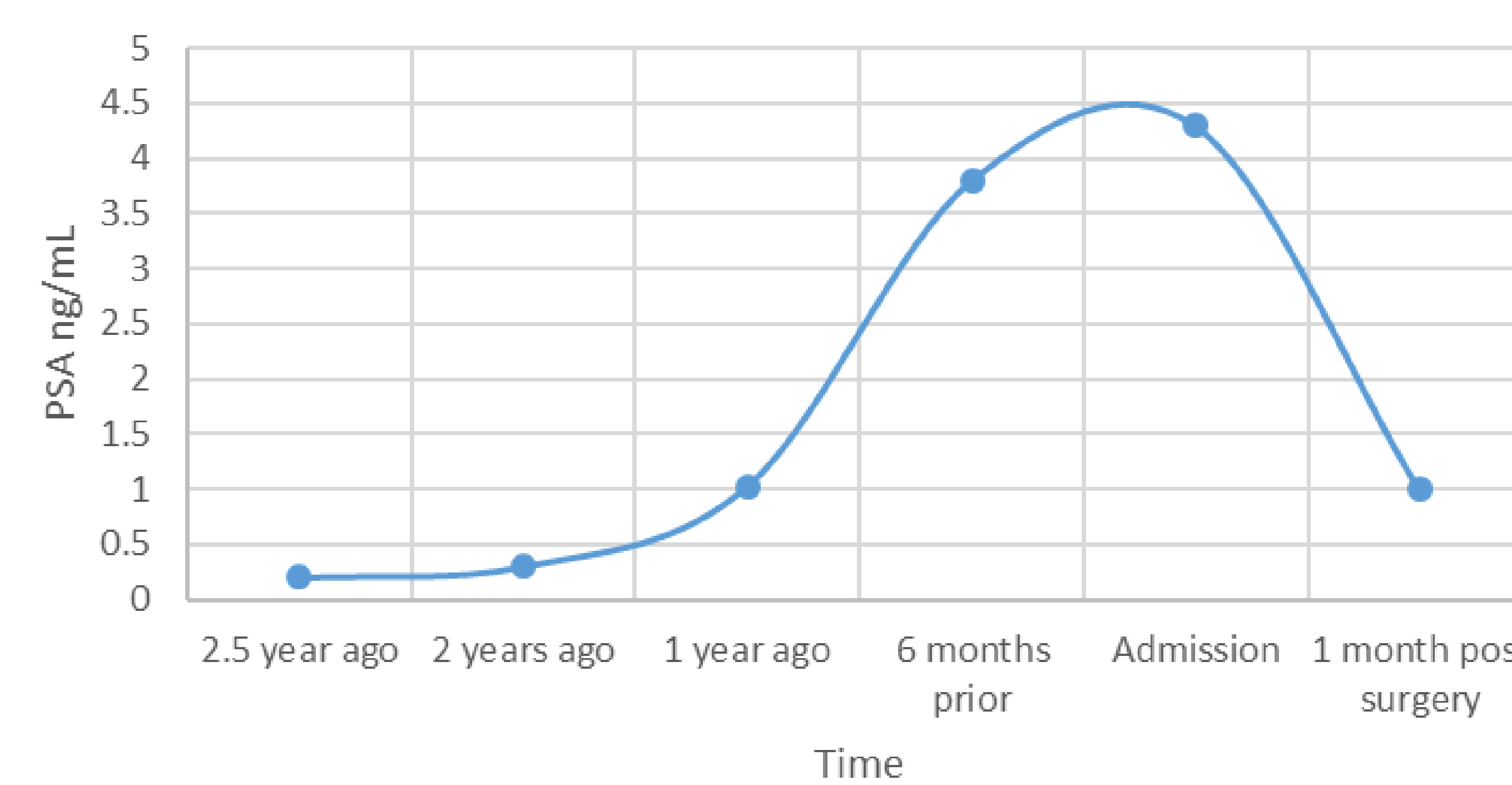


Figure 2: PSA trends prior to admission and one month post surgery

Discussion

- Unexplained PSA rise is indication for full oncologic workup
- Brain metastasis from prostate cancer is approximately .2% to 2%
- Most metastasis involve skeleton (84%), distant lymph nodes (10.6%), and thorax (9.1%)
- If negative work up, consider further brain imaging
- PET-CT scan of brain should not be excluded
- Standard of treatment: resection of solitary lesion with subsequent brain radiation. Whole brain radiation therapy is also an option
- Poor prognosis reported median survival time 1 to 7.7 months. Some have shown 9.5% overall survival in 1 year

Conclusion

- This case portrays the difficulty in prostate cancer management and to raise awareness for patients with acute increase in PSA levels. Clinicians should be aware that elevation in PSA levels is concerning for ongoing organic processes and metastasis evaluation should not exclude brain imaging.

References

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