

A case of brain metastasis development despite PSA suppression in a hormone sensitive metastatic prostate cancer patient under apalutamide treatment

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Objective:

Prostate cancer (PC) is the most common tumor in older men. The most prevalent sites of metastases are bones, lymphnodes, lungs and liver. Brain involvement by PC is relatively rare. Brain metastases (BM) occur in only 1-2% of patients with metastatic PC. Second-generation androgen receptor-signaling inhibitors (ARSI) are largely used as first-line treatment in metastatic hormone sensitive PC (mHSPC) but they cannot easily penetrate the blood–brain barrier so that they are excluded from Central Nervous System (CNS) or achieve intracerebral concentrations associated with a small risk of seizures (e.g., apalutamide and enzalutamide).

Methods:

Here we report a 66-year-old patient with mHSPC who developed BM under apalutamide, started 15 months before and with undetectable PSA.

Results:

The patient presented with slowed speech and confusion worsening in 10-15 days. A brain MRI revealed two junctional lesions of repetitive significance, in the right frontal area and left frontal and two further lesions with similar characteristics in the right and left cerebellar hemispheric area. PSA level never increased despite radiological progressive disease. The patient received only best supportive care and did not undergo radiation therapy due to rapid worsening of clinical conditions leading to death after 15 days.

Conclusions:

Even though BM are quite rare and more common just in castration resistant prostate cancer, they should be considered as a potential site of disease also for mHSPC under ARSI or chemotherapy treatment because of blood-brain barrier low penetration. BM are associated with poor prognosis and radiological restaging should periodically be performed and include CNS even if PSA value is undetectable.

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