

Prostate Cancer Central Nervous System Metastasis in a Contemporary Cohort

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Abstract

Central nervous system (CNS) metastasis from prostate cancer (PCA) is a rare event, but one with significant prognostic impact. We retrospectively identified 6596 cases of PCA, with 29 confirmed cases of CNS metastases from PCA. The incidence of CNS metastases in PCA is considerably increased in patients who receive medical therapy beyond first-line androgen deprivation therapy.

Introduction: Central nervous system (CNS) metastasis from prostate cancer (PCA) is a rare event, but one with significant prognostic impact for those affected. There are limited data on its impact in contemporary cohorts treated with modern agents.

Patients and Methods: A retrospective institutional review was performed to characterize the occurrence/outcome of PCA CNS metastasis on all cases of PCA from 2011 to 2017. A manual chart review was performed to confirm PCA CNS metastases in all cases identified through a diagnostic code screening of the health data.

Results: A total of 6596 cases of PCA were identified, with 29 (20 dural and 9 intraparenchymal) confirmed cases of CNS metastases from PCA. The median survival from the time of diagnosis of CNS metastasis was 2.6 months (95% confidence interval, 2.04-10.78 months) and 5.41 months (95% confidence interval, 3.03 months to not reached) for dural and parenchymal metastases, respectively. Among those who developed CNS metastases, approximately 79% of patients had prior exposure to abiraterone and/or enzalutamide, of whom 50% had ≥ 6 months of exposure. Four (0.07%) of the 5841 patients developed CNS metastases prior to the initiation of therapy or on androgen deprivation therapy alone. In contrast, 24 (8.6%) of the 279 patients with 2 or more lines of medical therapy developed CNS metastases.

Conclusions: Our analysis highlights the continued poor prognosis of parenchymal and dural CNS metastases from PCA. CNS metastases in PCA remain a rare event with a 0.4% incidence in this series, but this incidence is considerably increased in patients who receive medical therapy beyond first-line androgen deprivation therapy.