Prostate cancer spinal metastases

Advanced prostate cancer often develops into bone metastases, which is characterized by aberrant bone formation with chronic pain and lower chances of survival.

Treatment

Prostate cancer spinal metastases treatment.

Case series

Of a total of 9010 patients in the Prostate CRIS database, 333 were identified as having developed spinal metastases. The median overall survival after diagnosis of spinal metastasis was 24 months (95% CI 21-28 months). The estimated 1-year overall survival was 73% (95% CI 67%-77%). In 85% of patients, at least 1 additional site of metastasis was documented. Among 28 patients who had no additional sites of metastases, the median survival was 55.9 months, whereas an increasing burden of disease was associated with shorter survival ($p = 0.0001$). The association was observed regardless of whether the metastatic burden was characterized as the presence of additional (nonspinal) bone metastasis, the presence of additional nonbone metastasis, or as the number of concomitant metastatic sites (all $p = 0.0001$). In multivariate analysis, a higher prostate-specific antigen level at the diagnosis of spinal metastasis, a longer duration between the diagnosis of prostate cancer and spinal metastasis, and the presence of additional metastasis at the time of diagnosis of spinal metastasis (all $p = 0.0001$) were independently associated with a shorter overall survival.

The results of this study are important for oncologists, neurosurgeons, and primary care physicians who have patients with prostate cancer that metastasizes to the spine, because these results can be used to form a prognosis and guide the physician in making appropriate decisions regarding the patient's treatment. Future work should include building a predictive model that accurately determines survival in patients with metastatic disease, because this would guide the physician in devising the most appropriate treatment plan for each patient [1)]

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634 patients with prostate cancer seen in a comprehensive cancer center during a 4-year period were retrospectively reviewed. One hundred nineteen patients (18.8%) had 212 significant episodes of osseous spinal metastases. Pain was nearly universal (93%), and motor and bladder impairment occurred in 25% and 3.1% of patients, respectively. Bone scan and magnetic resonance imaging (MRI) were performed in 197 and 64 episodes, respectively. Fifteen episodes of spinal cord compression were treated surgically. Other treatments included hormonal therapy (163 episodes), chemotherapy (70 episodes), and radiation therapy (103 episodes). Osteolytic lesions were observed alone and in combination with osteoblastic pattern in 18% and 26% of episodes, respectively. Bone scan was the most effective screening procedure of vertebral involvement, and MRI effectively showed epidural involvement. Overall treatment led to improvements in pain and motor impairment in 77% and 50% of patients, respectively. However, clinical episodes were recurrent (1.78 episodes per patient; range, 1-8). Median survival after vertebral metastasis episode was 14 months compared with only 4 months

after surgery for spinal cord compression. Vertebral metastases strongly alter quality of life in patients with prostate cancer. Pain and neurologic complications are the major problems. Careful early screening with bone scan and MRI may help to define better treatment strategy. However, further prospective studies of clinical management are needed to determine the optimal timing of radiation therapy, medical treatments, and surgery [2].

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Drzymalski DM, Oh WK, Werner L, Regan MM, Kantoff P, Tuli S. Predictors of survival in patients with prostate cancer and spinal metastasis. Presented at the 2009 Joint Spine Section Meeting. Clinical article. J Neurosurg Spine. 2010 Dec;13(6):789-94. doi: 10.3171/2010.6.SPINE10167. PubMed PMID: 21121759.

2)

Cereceda LE, Flechon A, Droz JP. Management of vertebral metastases in prostate cancer: a retrospective analysis in 119 patients. Clin Prostate Cancer. 2003 Jun;2(1):34-40. doi: 10.3816/cgc.2003.n.010. PMID: 15046682.