Systematic Review of Surgical Treatment Outcomes of Prostate Metastases to the Spine

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Introduction

Treatment of symptomatic spinal metastases through surgical decompression and reconstruction is known to improve quality of life in patients with cancer. However, most studies have been performed on patients with mixed tumor histopathology. We systematically review the literature for prognostic factors specific to the surgical treatment of prostate metastases to the spine to determine the indications and outcomes of the surgical treatment.

Material and Methods

A systemic review of the literature was conducted to answer the following questions: Q1. Describe the survival and functional outcomes of surgery or vertebral augmentation for prostate metastases to the spine; Q2. Determine whether overall tumor burden, Gleason score, preoperative functional markers, and favorable hormonal naivety for operative intervention; Q3. Establish whether clinical outcomes vary with the evolution of operative techniques. Expert consensus was obtained using a modified Delphi process.

Results

A total of 16 studies met the preset inclusion criteria. These studies were all retrospective series with a level of evidence of IV. Included studies consistently showed a large effect of hormone naivety on overall survival. In addition, studies consistently demonstrated an improvement in motor function and the ability to maintain/regain ambulation following surgery resulting in moderate strength of recommendation. All other parameters were of insufficient or low strength.

Conclusion

There is scant literature on the surgical treatment of prostate metastases to the spine, which represents an opportunity for future research. On the basis of the existing evidence, it appears that the surgical treatment of prostate metastases to the spine has consistently favorable results. While no consistent preoperative indicators favor nonoperative treatment, hormone naivety and high Karnofsky Performance Scores have positive effects on survival and clinical outcomes.