

Prognostic Factors Associated with Improved Quality of Life Following Spine Tumor Separation Surgery: A
Secondary Analysis of a Prospective Study

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Introduction

“Hybrid Therapy” (separation surgery and concomitant radiosurgery) is an effective method for tumor control and neurologic preservation for patients with metastatic spinal cord compression. We have previously demonstrated the benefit of this combined modality treatment on HrQOL as evaluated utilizing patient reported outcome (PRO) measures in a prospective study. Delineating prognostic factors influencing outcomes after treatment of MESCC was the objective of this analysis.

Methods

Patients with MESCC who underwent separation surgery followed by SRS were included. PRO tools, i.e. Brief Pain Inventory (BPI) and MD Anderson Symptom Inventory – Spine Tumor (MDASI-SP), both validated in the cancer population, were prospectively collected. Numeric prognostic factors were correlated with PRO measures using the Spearman rank correlation coefficient. Categorical prognostic factors were correlated with PRO measures using the Wilcoxon two-sample test (for two categories) or the Kruskal-Wallis test (for three or more categories).

Results

One hundred and eleven patients were included in this analysis. Patients with lower pre-operative Medical Research Council (MRC) motor scores experienced a greater decrease in symptom interference (BPI combined (p=0.03), and individual functional measures including general activity (p=0.001), walking (p=0.001) and normal work (p=0.006)). Lumbar location was associated with better outcomes than cervical or thoracic (BPI pain experience (p=0.03) and MDASI-SP interference (p=0.01) and core symptom (p=0.002) constructs). Patients with ASIA scores of C or D benefit more than those with ASIA E (BPI Interference construct (p=0.04)). Patients with higher ECOG scores benefit more than those with low scores at presentation (MDASI-SP interference, (p=0.03)). Women benefit more than men in BPI disease interference (p=0.03) and pain experience (p=0.04) constructs.

Conclusions

Patient education and setting treatment expectations are important for optimizing cancer care. For MESCC requiring decompression, stabilization and concomitant radiosurgery; presence of neurological deficits and diminished performance status, lumbar tumor level and female gender were associated with greater PRO improvement.

Learning Objectives

To identify factors associated with better QOL outcomes for separation surgery followed by SRS

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