Micro-Invasive Uninstrumented Spinal Tumor Decompression (MUST-D) for Spinal Metastases

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Introduction

We investigated whether minimally invasive vs. open approaches to tumor resection can reduce morbidity, correct deformity, and provide lasting benefit.

Methods

Patients with a diagnosis of cancer and MRI evidence of metastatic epidural spinal cord compression underwent minimally invasive surgery (MIS). Outcomes were compared against controls undergoing open surgery.

Results

30 patients underwent 32 MIS procedures vs. 51 controls undergoing open surgery. Average surgical time (hours) was 2.8 in the MIS group vs. 4.43 in the open group, average EBL (ml) was 592.83 vs. 988.03, average hospital stay (days) was 6.69 vs. 10.05, and average time to ambulation (days) were 1.38 vs. 5.51. Among patients with poor ambulation one-month post-op, MIS patients improved significantly by an average of 2.25 Hauser score levels vs. control showing no improvement. Among MIS patients, Cobb angle decreased significantly vs. control showing no improvement. Among open patients there were 7 DVT, 5 PE, and 6 wound infections in the first 30 days vs. none in the MIS group. In the MIS population the average period between recurrences was 6 months; those with surgical recurrence within 4 months of the initial procedure did not undergo any further procedures; they survived for an average of 4.7 months. Those with a recurrence more than 4 months after the index procedure survived more than 28 months on average, underwent an average of 3.75 procedures each, with an average period between re-operations of 6.9 months. Survival correlated to their JSI scores, which was significantly higher in the MUST-D group than the open group,

Learning Objectives

What treatment options exist for patients with spinal cord compression from metastatic disease?

What is the difference in outcomes between these two treatment options?

Are there any factors that predict outcomes between the two options?

References