



Treatment, Clinical Presentation, and Outcomes of 1,490 Patients with Intraspinal Meningiomas: A Surveillance, Epidemiology, and End Results (SEER) Database Analysis

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Introduction

Previous studies have had small sample sizes and patient ascertainment bias. The aim of this study was to analyze a large patient population in order obtain demographic, clinical profiles, and survival outcomes of patients with benign intraspinal meningiomas.

Methods

Demographic and clinical data was abstracted on 1,490 cases of benign intraspinal meningiomas, between 2004 and 2010, from the SEER database. Clinical outcome data was compared. Statistical analyses were performed.

Results

When compared to patients age 80 and above, patient age groups 20-39 (OR 1.72 [95% CI 1.05-2.8], P = 0.030) and 40-59 (OR 1.54 [95% CI 1.12-2.11], P = 0.007) had significantly increased odds of undergoing surgical resection. Overall there has been a trend towards observation over surgery of benign spinal meningiomas among the more recent years. Patients who received radiation therapy were twice as likely (66.7%) to have observation-only compared to surgical resection (33.3%). Positive tumor histology (HR 0.23 [95% CI 0.16-0.35], P < 0.001) and surgical resection (HR 0.44 [95% CI 0.31-0.62], P < 0.001) were independently associated with significantly decreased mortality. Female patients who underwent surgical resection had the best prognosis, with 5-year survivals of 92%. Female patients who had no surgical resection tended to have the worse prognosis, 5-year survival of 79%. Patients with no resection had a significantly worse overall prognosis (log rank test, P < 0.001). Patients in the older age groups tended to have worse survivals than their younger counterparts. This was true with the exception of age groups 20-39 and 40-59. The 40-59 age group had better post-diagnosis overall survival than the 20-39 year age group.

Conclusions

This is the largest and most representative survival study to date. The incidence of surgical intervention has been decreasing in recent years. Female patients who underwent surgical resection had the best prognosis, with 5-year overall survival of 92%.

Learning Objectives

- By the conclusion of this session, participants should be able to:
- 1) Describe the importance of surgical intervention in reference to benign spinal cord meningiomas.
 - 2) Understand that the incidence of surgical intervention has been decreasing in the past years, but regognize that surgery will increase overall survival in benign intraspinal meningioma patients.
 - 3) Discuss, in small groups, generalized differences in patient demographics and clinical profiles and recognize how these factors influence survival outcomes in benign intraspinal meningioma patients.