INTRODUCTION: To assess tumor control and survival in patients treated with stereotactic radiosurgery (SRS) for 10 or more metastatic brain tumors. METHODS: Patients were retrospectively identified. Clinical records were reviewed for follow-up data, and post-SRS MRI studies were used to assess tumor control. For tumor control studies, patients were separated based on synchronous or metachronous treatment, and control was assessed at three-month intervals. The Kaplan-Meier method was employed to create survival curves, and regression analyses were employed to study the effects of several variables. RESULTS: Fifty-five patients were treated for an average of 17 total metastases. Forty patients received synchronous treatment, while 15 received metachronous treatment. Univariate analyses revealed that survival increased with the number of treated lesions (P = 0.0406). However, significance was lost on multivariate analysis. Among patients who received synchronous treatment, the median percentage of tumors controlled after 1 year was 92%, after 2 years was 84%, and after 3 years was 77%. Among patients who received metachronous treatment, the median percentage of tumors controlled after each SRS encounter was 100% at all three time points. CONCLUSIONS: SRS can be used to treat patients with 10 or more total brain metastases with excellent survival in the majority of cases. To control for local failure observer bias, an unsupervised machine learning approach that will be created via boosting to predict local control in patients using local failure timing, or lack thereof, provided by physician. To control for local failure observer bias, an unsupervised machine learning approach would be created via boosting to predict local control in patients using local failure timing, or lack thereof, provided by physician. To control for local failure observer bias, an unsupervised machine learning approach would be created via boosting to predict local control in patients using local failure timing, or lack thereof, provided by physician. To control for local failure observer bias, an unsupervised machine learning approach would be created via boosting to predict local control in patients using local failure timing, or lack thereof, provided by physician.