Patient Preferences Between Frame-based and Masked Stereotactic Radiosurgery

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Objectives: The objectives of the study are a) to compare patient preferences between frame-based and masked SRS with respect to comfort and pain and b) to examine the effect of lesion type in the patient experience of SRS.

Methods: Over a one-year period, patients who underwent frame-based or masked SRS at our institution were given an eight-question survey about their experiences with the procedure immediately after treatment was completed. Descriptive statistics were applied.

Results: A total of 117 patients completed the survey with 65 frame-based and 52 masked SRS treatments, all on the same treatment platform. There was a significant difference in pain levels for those treated with the frame (M = 5.64, SD = 2.55) compared to those treated with the mask (M = 0.92, SD = 2.24); t(114), p < 0.001. Patient comfort was statistically significant for mask-based treatment compared to frame-based (p < 0.001). Mixed results were obtained when investigating if benign versus malignant diagnosis affected patient experience of SRS. Diagnosis played no role on pain levels in both treatment groups. The treatment type played no role on patient comfort in patients with benign pathologies. When malignant pathologies were analyzed, patients treated with the mask were more likely to be comfortable (p < 0.001). The diagnosis had no effect on patient comfort when treatment was with a frame, but patients treated with a mask were more likely to be comfortable if they had a malignant lesion (p < 0.001).

Conclusions: Patients treated with mask-based SRS experience the procedure as more comfortable and less painful compared to those treated using a frame. Overall, this difference was not affected by a benign vs. a malignant diagnosis. However, within diagnosis groups, patients with benign pathologies had equal comfort with both treatments while those with malignancies preferred mask-based SRS.