

# No difference in pain response between SBRT and conventional RT for patients with spinal metastases

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A Phase III, NRG Oncology clinical trial that compared radiosurgery (SRS) or stereotactic body radiotherapy (SBRT) to the conventional radiotherapy (cEBRT) for patients with spinal metastases indicated that there was no statistically significant difference between the treatments for pain response, adverse events, FACT-G, BPI, and EQ-5D scores. These results were presented during the plenary session of the American Society of Radiation Oncology's (ASTRO) Annual Meeting in September 2019. The abstract was one of four abstracts chosen from over 3,000 submitted abstracts for the plenary session.

NRG-RTOG 0631 was designed to compare two treatment options for patients with spinal metastases in one to three spinal sites. The experimental treatment arm was radiosurgery / stereotactic body radiotherapy (SRS/SBRT) at 16 or 18 Gy in one fraction to the involved spinal segment. This was compared to cEBRT given at 8 Gy in one fraction to the involved spine and additional one spinal segment above and below. The primary endpoint of this trial was to determine [pain response](#) of the treated region at 3 months after the treatment. Researchers also recorded changes in adverse events and FACT-G, BPI, and EQ-5D scores.

Pain control was evaluated on the Numerical Rating Pain Scale at the treated spinal segment. Complete response was defined as [pain](#) score 0 with no increase of pain medication, and partial response was defined as

a greater than or equal to 3 point improvement. Scores were reviewed at 3 months post-treatment. There were 339 eligible patients on the trial; 209 of those patients received SRS/SBRT treatment and 130 patients received cEBRT. Baseline mean pain score at the index spine site was 6.06 with a [standard deviation](#) of 2.61 for the SRS/SBRT treatment arm and 5.88 with a standard deviation of 2.41 in the cEBRT treatment arm. At 3-months, the pain score at the index site was changed -3.00 with a standard deviation of 3.34 for the SRS/SBRT treatment arm, and -3.83 with a standard deviation of 2.97 for the cEBRT treatment arm. Results yielded no difference between SRS/SBRT and cEBRT treatments at 3 months for pain response (40.3% vs. 57.9%).

"Radiosurgery/SBRT failed to improve the pain response, at 1, 3 and 6 months. A single EBRT fraction of 8 Gy should therefore remain the standard of care for patients with localized spine metastases," stated Samuel Ryu, MD, of the Stony Brook University Medical Center and lead author of NRG-RTOG 0631.

**More information:** Ryu S, Deshmukh S, Timmerman RD, Movsas B, Gerszten P, Yin FF, Dicker A, Shiao SL, Desai A, Mell LK, Iyengar P, Hitchcock YJ, Allen AM, Burton S, Brown D, Sharp HJ, Chesney JA, Siddiqui MS, Chen TH, Kachnic LA. (2019, September). Radiosurgery Compared to External Beam Radiotherapy for Localized Spine Metastasis: Phase III Results of NRG Oncology/RTOG 0631. Paper presented at the annual meeting of the American Society for Radiation Oncology, Chicago, IL.

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