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## Bone

### Quality of Life After Stereotactic Body Radiation Therapy Versus Conventional Radiation Therapy in Patients With Bone Metastases

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#### PURPOSE

Painful bone metastases hamper quality of life (QoL). The aim of this prespecified secondary analysis of the PRESENT trial was to compare change in global QoL, physical functioning, emotional functioning, functional interference, and psychosocial aspects after conventional radiation therapy (cRT) versus stereotactic body RT (SBRT).

#### METHODS AND MATERIALS

A total of 110 patients were enrolled in the phase II randomised controlled VERTICAL trial (NCT02364115) following the "trials within cohorts" design and randomised 1:1 to cRT or SBRT. Patient-reported global QoL, physical functioning, emotional functioning, functional interference, and psychosocial aspects were assessed by the European Organisation for Research and Treatment of Cancer QoL Questionnaire (QLQ) Core 15 Palliative Care and QLQ Bone Metastases 22 modules. Changes in QoL domains over time were compared between patients treated with cRT and SBRT using intention-to-treat (ITT) and per-protocol (PP) linear mixed model analysis adjusting for baseline scores. Proportions of patients in the cRT versus SBRT arm reporting a clinically relevant change in QoL within 3 months were compared using a  $\chi^2$  test.

#### RESULTS

QoL scores had improved over time and were comparable between groups for all domains in both the ITT and PP analyses, except for functional interference and psychological aspects in the ITT. Functional interference scores had improved more after 12 weeks in the cRT arm than in the SBRT arm (25.5 vs 14.1 points, respectively; effect size [ES] = 0.49,  $P = .04$ ). Psychosocial aspects scores had improved more after eight weeks in the cRT arm than in the SBRT arm (12.2 vs 7.3; ES = 0.56,  $P = .04$ ). No clinically relevant differences between groups at 12 weeks in terms of global QoL, physical functioning, emotional functioning, functional interference, and psychosocial aspects were observed.

#### CONCLUSIONS

Palliative RT improves QoL. Both SBRT and cRT have a comparable effect on patient-reported QoL outcomes in patients with painful bone metastases. Functional interference and psychological aspects scores improved more in patients treated with cRT versus patients offered SBRT.