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Introduction & Objectives: With the constantly increasing life expectancy, the optimal management of older oncological patient is a major issue for the scientific community. MR-guided radiotherapy delivered with Hybrid-linacs represents a revolutionary change in the radiation oncology community, by providing a constant verification of the patient's real-time anatomy, and allowing daily treatment planning. Despite improving the accuracy, given the longer treatment time per fraction, this can theoretically affect older subjects compliance to treatment and potentially generate discomfort.

We present preliminary data of the first older patients treated with stereotactic body radiotherapy (SBRT) consisting of 1.5T MRI-guided and daily-adapted treatment. We aimed to assess feasibility, safety and the role of G8 and Charlson Comorbidity Index (CCI) questionnaires in predicting patients' QoL, evaluated by patient-reported outcome measures (PROMs).

Materials & Methods: Two cohorts of patients with localized prostate cancer or abdominal-pelvic oligometastases were analyzed. The SBRT schedule consisted of 35 Gy delivered in 5 fractions. The primary endpoint was to evaluate the impact of G8 and CCI on PROMs. Both G8 and the CCI were performed at baseline, while the EORTC Quality of Life Questionnaire-Core 30 (EORTC QLQ-C30) for PROMs assessment was prospectively performed at baseline and after SBRT.

Results: Forty older patients were treated with MR-guided SBRT, 28 for prostate cancer and 12 for oligometastases. The median age was 73 years (range 65-85). For the entire population, the median G8 score was 15 (10-17) and the median CCI score was 6 (4-11). Median treatment time per fraction was 41 minutes (range, 20-61) Concerning the PROMS, the EORTC-QLQ C30 questionnaire reported no difference between the pre- and post-SBRT evaluation in all patients, except for the fatigue item that declined after SBRT, especially in the group of patients with a G8 score <15 and with age <75 years (p=0.049). According to CTCAE v5.0, no grade 3 or higher acute toxicity occurred.

Conclusions: This is the first report documenting for older patients that 1.5T MRI-guided daily-adapted SBRT is feasible, safe with no impact on the QoL at the end of treatment. Longer follow-up is advocated to report long-term outcomes.