

## **Abstract 5 – Stereotactic Ablative Radiotherapy for the Comprehensive Treatment of Oligometastatic Tumors (SABR-COMET): Results of A Randomized Trial**

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**Purpose/Objective(s):** The oligometastatic paradigm suggests that patients with a limited number of metastases may be curable if all sites of disease are eradicated with ablative therapies, such as surgery or radiation. However, randomized evidence in support of this paradigm is lacking. We assessed the impact of delivering stereotactic ablative radiotherapy (SABR) on survival, oncologic outcomes, toxicity, and quality of life (QOL) in patients with a controlled primary tumor and up to five oligometastatic lesions.

**Materials/Methods:** We enrolled patients who had a controlled primary malignancy with 1-5 metastatic lesions, all of which were amenable to SABR, with good performance status (ECOG 0-1) and life expectancy >6 months. We stratified by the number of metastases (1-3 vs. 4-5) then randomized in a 1:2 ratio between palliative standard of care (SOC) treatments [Arm 1] vs. SOC plus SABR to all metastatic lesions [Arm 2]. The primary endpoint was overall survival (OS). A randomized phase II screening design was employed with a two-sided alpha of 0.20 (wherein a p-value <0.20 designates a positive trial) to provide an initial comparison of these two treatment strategies. OS was compared using the stratified log-rank test based on Kaplan-Meier (KM) estimates. Secondary endpoints included progression-free survival (PFS), toxicity, and QOL (assessed using the FACT-G). All analyses herein were pre-specified and intention-to-treat.

**Results:** Between Feb 2012 and Aug 2016, 99 patients were randomized (33 in Arm 1, 66 in Arm 2) at centres in Canada, Scotland, the Netherlands and Australia. Median age was 68 (range 43-89) and 59% were male. The most common primary tumor types were breast (n=18), lung (n=18), colorectal (n=18) and prostate (n=16). Most patients (n=92) had 1-3 metastases. There were no significant differences in baseline factors between arms. Median follow-up was 27 months. Median OS was 28 months in Arm 1 (95% CI 19-33 months) vs. 41 months in Arm 2 (95% CI: 26 months to 'not reached'; stratified log-rank p=0.09). Median PFS was 6.0 months in Arm 1 (95% CI: 3.4-7.1 months) vs. 12 months in Arm 2 (95% CI: 6.9-30 months; p=0.001). Grade  $\geq 2$  adverse events related to treatment occurred in 9% in Arm 1 and 30% in Arm 2 (p=0.022). The most common grade  $\geq 2$  toxicities in the SABR arm were fatigue (n=10), dyspnea (n=9), muscle and joint pain (n=7), bone pain (n=6) or pain not otherwise specified (n=7). There were 3 treatment-related grade 5 events in Arm 2, due to deaths from radiation pneumonitis (n=1), pulmonary abscess (n=1), and subdural hemorrhage after surgery to repair a SABR-related perforated gastric ulcer (n=1). There were no differences in overall mean FACT-G scores at 6 months (82.5 in Arm 1 vs. 82.6 in Arm 2; p=0.992), or in any of the physical, social, functional, or emotional QOL subscales (all p>0.4).

**Conclusion:** SABR was associated with an improvement in OS, meeting the primary endpoint of this trial, and PFS was doubled. Grade  $\geq 2$  toxicities were more common with SABR, but no differences were seen in QOL. (NCT01446744)

### **Abstract to be presented at the American Society for Radiation Oncology (ASTRO) Annual Meeting**

- News Briefing: Tuesday, October 23, 2:00 – 3:00 p.m. CT, Room 225-D; register to join the briefing remotely at <http://bit.ly/ASTRO18-3>
- Plenary Session: Monday, October 22, 2:15 – 3:45 p.m. CT, Stars at Night Ballroom