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Clinical Investigation

Predictive Parameters of Symptomatic Hematochezia Following 5-Fraction Gantry-Based SABR in Prostate Cancer

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Summary

Five-fraction stereotactic ablative radiation therapy (SABR) to the prostate has advantages of cost effectiveness and patient convenience compared to other treatment schedules. Data for SABR dose constraints to limit rectal morbidity are lacking. We analyzed the correlation between various clinical and dosimetric factors and the risk of grade 2 or higher late rectal bleeding. Rectal

Purpose: This study identified predictors of high-grade late hematochezia (HH) following 5-fraction gantry-based stereotactic ablative radiation therapy (SABR).
Methods and Materials: Hematochezia data for 258 patients who received 35 to 40 Gy SABR in 5-fractions as part of sequential phase 2 prospective trials was retrieved. Grade 2 or higher late rectal bleeding was labeled HH. Hematochezia needing steroid suppositories, 4% formalin, or 1 to 2 sessions of argon plasma coagulation (APC) was labeled grade 2. More than 2 sessions of APC, blood transfusion, or a course of hyperbaric oxygen was grade 3 and development of visceral fistula, grade 4. Various dosimetric and clinical factors were analyzed using univariate and multivariate analyses. Receiver operating characteristic (ROC) curve analysis and recursive partitioning analysis were used to determine clinically valid cut-off points and identify risk groups, respectively.
Results: HH was observed in 19.4%, grade $\geq$3 toxicity in 3.1%. Median follow-up was 29.7 months (interquartile range [IQR]: 20.6-61.7) Median time to develop HH was 11.7 months (IQR: 9.0-15.2) from the start of radiation. At 2 years, cumulative

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