Oligometastatic bone disease in prostate cancer patients treated on the TROG 03.04 RADAR trial.

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Abstract

BACKGROUND: It remains unclear whether eradication of oligometastases by stereotactic body radiation therapy or other means will result in cure or prolongation of survival in some cases, or merely provide palliation. We address this issue with prospectively collected progression and treatment data from the TROG 03.04 RADAR randomised controlled trial for men with locally advanced prostate cancer (PC).

METHODS: Three Fine and Gray competing risk survival models with time-dependent covariates were used to determine whether metastatic progression status at first diagnosis of bony metastases, i.e. number of bony sites involved and presence of prior or simultaneous other sites of progression, impacts on prostate cancer-specific mortality (PCSM) when adjusted for baseline prognostic factors and allocated primary treatment.

RESULTS: Between 2003 and 2014, 176 of the 1071 subjects developed bone metastases, 152 developed other sites of progression and 91 died of PC. All subjects received secondary treatment using androgen suppression but none received extirpative treatments. The three models found evidence: 1 - of a clear prognostic gradient according to number of bony metastatic sites; 2 - that other sites of progression contributed to PCSM to a lesser extent than bone progression; and 3 - that further bony metastatic progression in men with up to 3 bony metastases had a major impact on PCSM.

CONCLUSION: Randomised trials are essential to determine the value of extirpative treatment for oligometastatic bony metastases due to PC.

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