examination and transrectal ultrasound, CT and/or bone scan imaging. Increasingly, multiparametric magnetic resonance imaging (mpMRI) is being used to identify the presence, size and location of dominant intraprostatic lesions (DIL) for novel treatment approaches, such as MR-dose painted brachytherapy. This study was done to determine how frequently risk assessment was changed after mpMRI and to summarize the dosimetric data of DIL coverage for MR-dose painted brachytherapy. 

Methods and Materials: This study was conducted as a retrospective chart audit. Staging information, dosimetric data and demographics were collected from the electronic patient record for prostate cancer patients who had mpMRI staging prior to radiotherapy. Pre- and post-mpMRI risk assessment and dosimetric data were analyzed using descriptive statistics. Univariate analyses of demographic and staging information were done to identify factors associated with changes in risk assessment.

Results: In total, 100 patients underwent mpMRI staging. Before mpMRI, 12 patients were assessed with low-risk, 47 with intermediate-risk and 41 with high-risk disease. After mpMRI, risk assessment changed after mpMRI and to summarize the dosimetric data of DIL coverage for MR-dose painted brachytherapy.

Conclusions: Permanent Breast Seed implant brachytherapy delivered in a single fraction caused a low rate of early side effects and patient reported cosmetic results were good to excellent in this small group of patients. An SD 0.2cc of > 100 Gy appeared to predict skin reactions, as only one out of 23 reported Grade 1 reaction below this level and two out of two patients with a dose above this had skin reactions. Further follow up is ongoing to assess late effects and dosimetric factors that may predict favourable and less favourable outcomes. More data is needed to better predict these factors.

118 IMPACT OF INTERNAL MAMMARY NODE RADIATION ON SURVIVAL OF PATIENTS WITH BREAST CANCER: EXTENDED FOLLOW UP OF A POPULATION BASED ANALYSIS

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Purpose: To extend follow up of a published analysis examining the value of the intent to include the internal mammary nodes (IMN) in patients with breast cancer receiving adjuvant locoregional radiation therapy (RT) to the breast or chest wall plus axillary supraclavicular nodes.

Methods and Materials: 2413 women with node-positive or T3/4pNO breast cancer, treated with locoregional RT from 2001 to 2006, were identified using a prospectively maintained, population-based database. Intent to include IMN was determined by review of charts and RT plans. Kaplan-Meier distant relapse-free survival (DRFS), breast cancer specific survival (BCSS), and overall survival (OS) were compared between the IMN and no-IMN RT groups. Pre-specified subgroup analyses of patients with pN1 disease were performed. Predictive scores were used to adjust for inter-institutional differences, patient, tumour, and treatment factors between the two groups.

Results: Median follow up time was 11.7 years. Forty-one percent of subjects received IMN RT. Twelve-year survival outcomes among the IMN and no-IMN groups were: DRFS 72.3% versus 72.3%, p = 0.85, BCSS 76.4% versus 72.5%, p = 0.41, and OS 69.6% versus 63.2%, p = 0.005. Corresponding survival comparisons restricted to the pN1 subgroup were: DRFS 83.3% versus 80%, p = 0.17, BCSS 86.2% versus 82.7%, p = 0.11, and OS 79.1% versus 70.5%, p = 0.0003. After adjusting for potential confounding factors, the IMN RT group did not have significantly different DRFS (hazard ratio [HR] 1.01 (95% confidence interval [CI], 0.85-1.19; p = 0.95), BCSS (HR 0.97 (95% CI, 0.81-1.17; p = 0.77), or OS (HR 0.95; 95% CI, 0.82-1.11; p = 0.53) compared to the no-IMN RT group. In the pN1 subgroup, IMN RT was associated with non-significant trends for improved survival: DRFS (HR 0.84; 95% CI, 0.63-1.11; p=0.22), BCSS (HR 0.84; 95% CI, 0.61-1.14; p = 0.26), and OS (HR 0.80; 95% CI, 0.63-1.02; p = 0.08).

Conclusions: With extended 12-year follow up, the intent to include IMN was not associated with significant improvements in survival. The survival hazard ratios associated with IMN RT among the pN1 cohort, while not statistically significant, appeared comparable to those reported in randomized trials, suggesting that IMN RT may contribute to improved outcomes in this subgroup.