

17-7409

**Use of duplicate axial imaging in newly diagnosed prostate cancer – trends across the Pennsylvania Urologic Regional Collaborative (PURC)**

*Serge Ginzburg\*, Adam Reese, Edouard Trabulsi, Tianyu Li, Claudette Fonshell, Bret Marlowe, Thomas Guzzo, Thomas Lanchoney, Marc Smaldone, Robert Uzzo, Philadelphia, PA*

**INTRODUCTION AND OBJECTIVES:** NCCN prostate cancer (CaP) guidelines currently designate either CT or MRI as recommended staging modality in select patients. The versatility of MRI may provide an additional aide in surgical planning or risk-stratification for active surveillance. Potential exists for overuse, resulting in duplicate axial imaging (CT + MRI) in same patient. We sought to analyze axial imaging utilization and to quantify the incidence of duplicate axial imaging in patients with newly diagnosed CaP across a regional collaborative.

**METHODS:** PURC is a prospective regional collaborative comprised of six large academic and private urology practices in Southeastern Pennsylvania launched in 2014. Demographic and clinicopathologic data for patients with newly-diagnosed CaP were abstracted. Rates of duplicate axial imaging (CT+MRI) were examined using chi-square and Spearman's correlation statistical analyses.

**RESULTS:** Data from 1892 patients with newly diagnosed CaP (May 2015 to Nov 2016) were abstracted. Median age was 63 [IQR 58-68], 66.1% were Caucasian and 26.2% African American. Median PSA was 6.1 [IQR 4.6-9.4] and NCCN risk category was very low, low, intermediate and high/very high in 7.4%, 22.5%, 45.0% and 25.1%, respectively. Overall, 923 patients (48.8%) underwent axial imaging. MRI alone was utilized in 659 (34.8%) and CT in 332 (17.5%). Duplicate imaging was observed in 68 patients, 7.4% of the patients with any axial imaging, 3.6% of the overall cohort. Patients with duplicate imaging differed significantly from the remainder of the cohort in clinicopathologic characteristics (higher PSA,  $p<0.001$ ; higher cT stage,  $p=0.015$ ; higher Grade Group,  $p<0.001$ ; higher NCCN risk category,  $p<0.001$ ) but not demographic characteristics (age, race, family history of CaP, Charlson comorbidity score). 48% of providers were observed to utilize duplicate axial imaging, with significant variation by individual provider from 0% to 60%. A weak correlation was observed between individual provider's patient volume and use of duplicate imaging (Spearman's correlation 0.313,  $n=56$ ,  $p=0.019$ ).

**CONCLUSIONS:** A non-trivial rate of duplicate axial imaging in patients with newly diagnosed CaP involving nearly half of participating providers was observed across PURC. Clinicopathologic factors such as higher PSA levels, clinical T stage, Grade Group and NCCN risk category were associated with higher duplicate imaging rates. Further studies are needed to assess specific indications leading to such duplication.

**Source of Funding:** Data was provided with permission from the Pennsylvania Urology Regional Collaborative (PURC), funded by participating urology practices and the Partnership for Patient Care, a quality improvement initiative supported by the Health Care Improvement Foundation, Independence Blue Cross, and southeastern PA hospitals and health systems.