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RATES OF UPGRADING AND PROGRESSION TO TREATMENT IN PATIENTS ON ACTIVE SURVEILLANCE DEPEND ON CHOICE OF CONFIRMATORY TEST AT THE TIME OF DIAGNOSIS

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INTRODUCTION AND OBJECTIVES: For patients with newly diagnosed Gleason 6 or low volume Gleason 7 prostate cancer (PC) considering active surveillance (AS), the Michigan Urological Surgery Improvement Collaborative (MUSIC) encourages the use of a confirmatory test (prostate MRI, tumor genomics, or repeat biopsy) within 6 months of the original diagnostic biopsy. We sought to determine associations between the confirmatory test and subsequent biopsy outcomes and progression to curative treatment during the surveillance period.

METHODS: We identified all patients in the MUSIC registry managed with AS from 2011 to present. A patient was considered to be on AS if the initial management strategy entered in the registry was AS, and there was no curative therapy within 6 months of the diagnostic biopsy. Patients that did not have a confirmatory test within 6 months of their initial diagnosis were excluded. We assessed the proportion of patients with Gleason Score $\geq$7 on later surveillance biopsy (>6 months after initial diagnosis) as well as rates of progression to treatment.

RESULTS: 4015 patients enrolled in AS during the study period. Of 999 AS patients with a confirmatory test, the confirmatory test was repeat biopsy in 25.2%, MRI in 27.3%, tumor genomics in 37.6%, and more than one test in 9.8%. Among 242 patients with GS 6 on the diagnostic biopsy and had a surveillance biopsy, a total of 25.6% were upgraded to GS 7 on surveillance biopsy. Upgrading on the later surveillance biopsy was 21.6% when the confirmatory test was MRI, 16.4% when the confirmatory test was repeat biopsy and 35.3% when the confirmatory test was tumor genomics, p=0.0052. Of all 999 patients on surveillance with a confirmatory test, 127 (12.7%) progressed to treatment during the study period. Progression to treatment was most common among patients whose confirmatory test was repeat biopsy (19.4%) as compared to MRI (13.2%) and tumor genomics (7.98%), p=0.0002 (Figure 1).

CONCLUSIONS: The various confirmatory tests are associated with different proportions of upgrading on surveillance biopsy and different rates of progression to treatment. The ideal confirmatory test in AS is unknown, and further investigation into the relationship of confirmatory testing to metastasis free survival and disease specific survival should be investigated.

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