

Treatment patterns after the use of the 17-gene Genomic Prostate Score assay in Veterans newly diagnosed with clinically low-risk prostate cancer.

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**Background:** Active surveillance (AS) is a recommended management approach for low risk prostate cancer (PCa). Studies have shown high rates of AS in the Veterans Administration (VA), but concerns about missing aggressive disease lead to variation between centers. The 17-gene Genomic Prostate Score (GPS) has been validated to predict likelihood of favorable pathology (LFP) in men with clinically low risk PCa. This study compared treatment patterns before and after introduction of the GPS to determine if the assay influenced treatment patterns. **Methods:** Men newly diagnosed with PCa who met NCCN criteria for very low (VL), low (L), or intermediate (INT) risk PCa were eligible. Chart review of men across 6 VA medical centers (VAMCs) established treatment in untested patients in 2013-2014. In 2015, Veterans at the same VAMCs were offered the assay in a prospective study measuring treatment recommendations before and after the assay and treatment implemented based on chart review. **Results:** There were 200 men in the untested cohort. Characteristics: age (median = 66, range:43-83), Gleason Score (GS) (3+3:64%, 3+4:37%), PSA (mean = 6.6, range:0.7-20), NCCN risk (VL:18%, L:37%, INT:46%). There were 190 men in the prospective study with complete data. NCCN risk group: age (median = 66, range:50-85), GS (3+3:74%, 3+4:26%), PSA (mean = 6.4, range:0.4-18.1), VL:22%, L:43%, INT:35%. GPS ranged from 0-61 and LFP ranged from 38%-91%. GPS identified 24 patients who had more favorable pathology and 13 patients who had less favorable pathology than would be expected using NCCN alone. 62% of untested Veterans pursued AS compared to 74% of tested Veterans. AS increases between untested and tested cohorts were 1% in VL, 16% in L, and 3% in

**INT. Conclusions:** Both untested and tested patients had clinical characteristics representative of low risk PCa in the VA. Use of AS increased in tested Veterans compared to untested, with the largest increases observed in NCCN low risk patients. The 17-gene assay used biological information to provide refined risk estimates in tested Veterans, assisting physicians in appropriately identifying candidates for AS or immediate treatment.