COMPARATIVE EFFECTIVENESS OF CONSERVATIVE MANAGEMENT VERSUS CRYOTHERAPY FOR PATIENTS WITH LOCALIZED PROSTATE CANCER: AN ANALYSIS OF TREATMENT-RELATED COMPLICATIONS AND CANCER SPECIFIC SURVIVAL

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Objectives: To compare treatment related side effects and cancer specific mortality of conservative management and cryotherapy for patients with localized prostate cancer.

Methods: The Surveillance, Epidemiology and End Results (SEER)-Medicare data from 2000-2009 was used to identify patients with localized prostate cancer. Treatment related side effects such as urinary tract obstruction, erectile dysfunction, bleeding, hydronephrosis, bowel fistula, urinary fistula and incontinence were identified using ICD-9 and Common Procedure Terminology (CPT)/HCPCS codes. Weighted propensity score method was used to balance the following covariates: age, race, tumor size, tumor grade, stage, tumor extension, and Charlson comorbidity index. Chi-square tests were used to compare treatment related side effects between the cohorts and a cox proportional hazard model was used to estimate cancer specific survival. All analyses were performed using SAS (version 9.4)

Results: Overall, 2071 patients received conservative management and 1333 patients received cryotherapy. Patients in the conservative management cohort had significantly lower erectile dysfunction and urinary tract obstruction (p < 0.05) in comparison to the cryotherapy cohort. However, the rate of hydronephrosis was significantly higher (p < 0.05) in the conservation management cohort compared to the cryotherapy cohort. There were no significant differences in other treatment related side effects (i.e., bleeding, bowel fistula, urinary fistula and incontinence) between the two cohorts. The results of survival analysis showed that there was no significant difference in cancer specific survival between the two cohorts (Hazards ratio: 1.248, p = 0.3493).

Conclusion: Our study suggests that patients who chose cryotherapy versus conservative management may encounter more side effects (e.g., erectile, urinary tract obstruction). However, cryotherapy and conservative management seem to have similar survival. These outcomes should be carefully considered by providers and patients while making decisions about prostate cancer treatment options. Further research is needed to evaluate treatment decision-making, and costs associated with localized prostate cancer.