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ABSTRACT

While disparities exist in prostate cancer incidence and mortality, few comparative studies examine the impact of race on functional outcome recovery following treatment. We compared post-prostatectomy recovery and found that Asian American men have significantly worse urinary function within 12 months of radical prostatectomy (odds ratio [OR] for urinary continence 0.76; 95% Confidence Interval [CI] 0.59, 0.98; p=0.036). Asian Americans should be counseled about the increased risk for post-prostatectomy urinary incontinence.

I. OBJECTIVES

To compare the longitudinal recovery of urinary function of Asian vs. non-Asian American men.

II. INTRODUCTION

Despite advances in surgical technique, the risk of urinary incontinence remains significant following radical prostatectomy. Most studies that chronicle patient reported outcomes post-prostatectomy comprise men of European descent, demonstrating that patient factors such as older age and higher body mass index (BMI) are associated with worse urinary incontinence. However, little is known whether race impacts urinary function after surgery. There are well-known racial differences in prostate cancer incidence and mortality; among US men, risks are highest among Non-Hispanic Black men and lowest among Asian/Pacific Islanders. We have observed anecdotally, in our clinical experience, that Asian American men fare worse post-prostatectomy in terms of urinary function.

III. METHODS

Patient-reported urinary function was collected prospectively pre- and post-operatively among men undergoing radical prostatectomy at Memorial Sloan Kettering Cancer Center (MSK) for 3,915 men between June 2015 and August 2019 and at Weill Cornell Medicine (WCM) for 135 men between June 2015 and August 2019. Urinary continence was defined as 0 pads or use of occasional pad/protective material on the Prostate Quality of Life Survey scale at MSK and as 0 pads on the Expanded Prostate Cancer Index Composite for Clinical Practice (EPIC-CP) at WCM.

Due to the slightly different definitions of continence from the two institutions, we opted for a meta-analytic approach, where differences by race were assessed separately by institution and combined with fixed-effects estimation. For each institution, we constructed a general estimating equation (GEE) logistic regression model using race (Asian vs. non-Asian) as the primary predictor of post-prostatectomy urinary continence, adjusting for age and time after surgery (3, 6, 9, and 12 months).

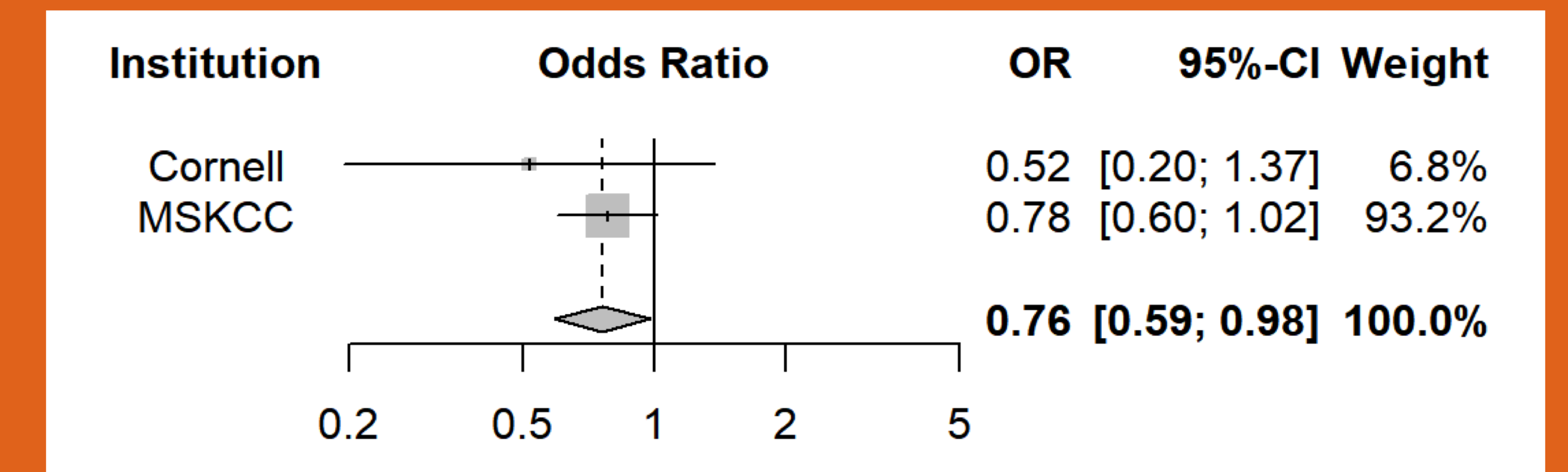
Table. Characteristics of the study sample

Characteristic ¹	non-Asian, n=3915	Asian, n=135	p-value ²
Age	62 (57, 67)	63 (58,68)	0.073
Biopsy Gleason Grade			0.4
1	756 (19%)	19 (14%)	
2	1712 (44%)	59 (44%)	
3	691 (18%)	28 (21%)	
4-5	726 (19%)	29 (21%)	
Unknown	30	0	
Institution			<0.001
Cornell	68 (1.7%)	20 (15%)	
MSKCC	3847 (98%)	115 (85%)	

¹ Statistics presented: median (IQR); n(%)

² Statistical tests performed: Wilcoxon rank-sum test; chi-square test of independence; Fisher's exact test

Figure. GEE logistic regression assessing the effect of Asian race on post-radical prostatectomy continence.



IV. CONCLUSIONS

Patient characteristics are reported in the Table. Asian American men comprised 23% of the WCM cohort and 2.9% of the MSK cohort, respectively. Asian Americans were slightly older than non-Asian-Americans at the time of prostatectomy, (median 63 vs. 62 years; p=0.073). There was no difference in preoperative grade group on biopsy.

We first assessed whether there was an interactive effect of race and time since surgery by including a race-time point interaction in the GEE model. The interaction was not significant (p=0.4), and we proceeded with a model including race as a main effect only. Asian-American men had significantly worse urinary continence (Figure) at 12 months after radical prostatectomy compared with non-Asian American men (odds ratio [OR] 0.76; 95% Confidence Interval [CI] 0.59, 0.98; p=0.036). Among Asian-American men treated as MSK, age-adjusted continence rates at 3 and 6 months after surgery were 37% and 56%, compared to 40% and 65% among non-Asian men.

In summary, Asian-American men experience 24% lower odds of achieving urinary continence during the first 12-months following radical prostatectomy. Consistent with guidelines, men of Asian descent should be counseled accordingly about the effect of race on post-prostatectomy continence.