Original article

Decisional regret after robotic-assisted laparoscopic prostatectomy is higher in African American men

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Abstract

Objectives: Longitudinal studies report racial disparities in prostate cancer (PCa) including greater incidence, more aggressive tumor biology, and increased cancer-specific mortality in African American (AA) men. Regret concerning primary treatment selection is underevaluated in patients with PCa. We investigated the relationships between clinicopathologic variables across racial and socioeconomic lines following robotic-assisted laparoscopic prostatectomy.

Materials and methods: We assessed treatment decisional regret using a validated questionnaire in a total of 484 white and 72 AA patients with PCa who were followed up for a median of 16.6 months post–robotic-assisted laparoscopic prostatectomy. Socioeconomic status (SES) information was aggregated from 2010 US census zip code data. Perioperative clinicopathologic characteristics and functional outcomes were compared between groups. Univariate and multivariate regression analyses were used to evaluate the influence of race, aggregate SES, and other clinical and demographic characteristics on decisional regret.

Results: The majority (87.7%) of the population was not regretful of their decision to undergo treatment. However, a greater proportion of AA vs. white patients were regretful (20.6% vs. 11.2%, respectively; $P = 0.03$). AA and white men were similar on all functional, clinical, and pathologic features with the exception of younger age among AA men (56 vs. 60 y, respectively; $P < 0.001$). Although there were significant differences in SES by race ($P < 0.001$), regret did not differ by SES ($\beta = -1.53$; $P = 0.15$). Race, postoperative sexual dysfunction, pad usage, and length of hospital stay, however, were significantly associated with decisional regret.

Conclusions: AA men were more regretful than white men, after adjusting for clinicopathologic characteristics and postoperative functional outcomes. © 2014 Elsevier Inc. All rights reserved.

Keywords: Prostate; Prostatectomy; Quality of life; Socioeconomic status; Race

1. Introduction

Prostate cancer (PCa) is the most common noncutaneous malignancy affecting men and is the second-leading cause of cancer-related deaths among men in the United States [1]. Several treatment modalities offering efficacious oncologic control have been well established, including radical prostatectomy and external-beam radiation [2]. With a maturing body of literature supporting similar early disease control, robot-assisted laparoscopic prostatectomy (RALP) has enjoyed rapid utilization [3,4]. Reported advantages of robotic prostatectomy include decreased blood loss, shorter hospitalization, and improved functional recovery times; however, level-1 evidence is lacking to support superior functional or oncologic outcomes [5]. Nonetheless, patient expectations are higher in men

undergoing RALP compared with those treated with open retropubic prostatectomy possibly reflecting the contribution of direct-to-consumer advertising [6,7].

In the landscape of multiple options for management of localized PCa, patients are tasked with discriminating between an array of choices, including nontreatment or deferred approaches. As a consequence, feelings of decisional regret (the distress caused by postoperative consideration of an alternative treatment choice) may be experienced by patients comparing their status with a potentially improved outcome had they received an alternate treatment [8]. Decisional regret after radical prostatectomy appears to be driven by numerous factors, including baseline functional status, socioeconomic factors, and postprocedural urinary quality of life [9–11]. With particular relevance to RALP, incongruence between pretreatment expectations and postoperative outcomes adversely affects decisional regret [6].

This phenomenon may be compounded in African American (AA) individuals, where racial disparities exist with regard to disease characteristics and treatment patterns [12–15]. AA men have a 40% higher age-adjusted incidence of PCa than white men, are younger at diagnosis, have more aggressive histopathology, and are nearly 2.5 times more likely to die from the disease [15,16]. Alarmingly, disparities persist even after controlling for differences in disease detection and behavior. Significant racial disparities exist in PCa treatment patterns, with AAs more likely to undergo nonsurgical therapy, including a higher likelihood of receiving primary androgen deprivation therapy for low-risk disease [13]. In a study of men of low socioeconomic status (SES) treated for PCa with multiple modalities, including radical robotic prostatectomy, nonwhite race was independently associated with treatment regret [14].

Little is known regarding whether these disparities contribute to differences in posttreatment decisional regret, or if minimally invasive surgery can narrow gaps in treatment utilization. Furthermore, it remains to be determined if the perception of regret is influenced by socioeconomic factors. In this context, we sought to investigate the role of AA race in a large, diverse cohort of men treated with robotic prostatectomy.

2. Patients and methods

Between November 2009 and September 2010, 953 patients presented for postoperative follow-up after undergoing RALP at our institution, of which 705 (74%) agreed to participate in an institutional review board–approved study. International patients with regular follow-up outside the United States, patients with incomplete clinical or pathologic data, and those who identified their race as "other" were excluded from the study ($n = 149$), resulting in an overall study population of 556 patients. Clinical and pathologic data included age at surgery, body mass index (BMI), presurgical prostate-specific antigen (PSA) level, family history of PCa, clinical stage, biopsy Gleason score, prostate weight, pathology Gleason score, pathologic stage, seminal vesicle invasion, extracapsular extension, and surgical margin status. The Clavien-Dindo classification system was utilized to assess surgical complications [17,20].

We used an aggregate measure of SES by incorporating 4 different variables from the zip code level 2010 census data: median household income, the percentage of persons 25 years of age or older with a high school education, college degree, and graduate/professional degree. Our aggregate SES score was adapted from the methods described by Krieger et al. [18]. For each of the 4 zip code level SES measures, patients were ranked into tertiles such that those in the lowest tertile consisted of patients living in the lowest average income or educational attainment areas, whereas those of the highest tertile were patients from the highest average household income or educational attainment. Each patient was then assigned a composite SES score based on the average of these 4 rankings.

2.1. Measures of decisional regret and satisfaction

Patients were administered a validated decisional regret scale (DRS) at regular follow-up intervals: 6 weeks, 3, 6, and 12 months, and every visit thereafter. The DRS instrument is a 5-item Likert scale with 5 possible responses ranging from "strongly agree" to "strongly disagree," with 3 questions assessing decisional satisfaction and 2 assessing decisional regret [19]. Raw scores ranging from 1 to 5 were recoded into a 0- to 100-point scale, with negative regret questions inverted so that higher scores represent less regret, whereas lower scores reflect more regret [19]. The mean of the 5 responses was equated to the total DRS score. On separate analysis, patients were dichotomized into being regretful or not regretful by the response to question 2, "I regret choosing to have a robotic prostatectomy," as previously validated [8,11].

2.2. Measures of potency and urinary function

Study subjects were administered Sexual Health Inventory for Men (SHIM) and International Prostate Symptom Score questionnaires postoperatively at regular follow-up intervals as discussed earlier. Potency was defined as SHIM score ≥ 17 [11]. To eliminate any potential confounding by time, we only considered SHIM and International Prostate Symptom Score surveys completed at the same visit as the DRS. To exclude patients in the immediate postoperative recovery period, we studied the effects of postoperative potency and urinary function only in patients with at least 6 months follow-up after RALP [11]. Urinary function was assessed by daily pad usage as 0, 1, or 2 or more pads per day.