Longitudinal Quality of Life of Men with Low-Risk Prostate Cancer in the Population-Based Treatment Options for Prostate Cancer Study (TOPCS)

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Introduction

- Active surveillance (AS) is the preferred treatment option for men diagnosed with low-risk prostate cancer (LPC) (1)
- AS allows patients with LPC to be carefully monitored for disease progression
- Regular monitoring avoids or delays invasive curative treatment (i.e., surgery or radiation)
- The side effects of curative treatment can negatively impact the quality of life (QOL) of men with LPC (2)
- We hypothesize that men with LPC who chose AS will report higher QOL scores upon 2-year follow- up than those who chose curative treatment

Methods

- Longitudinal TOPCS cohort study included black and white men ≤75 years with newly diagnosed LPC during 2014 to 2017 from population-based samples recruited from two cancer registries
- Patients were grouped by their decision to pursue curative treatment or AS
- QOL was assessed at baseline and 2-year follow up using mailed survey
- Mailed surveys included the SF-12 Physical Component Summary and Mental Component Summary, and EPIC-26 measures of urinary incontinence, urinary irritation, bowel function, sexual function, and hormonal function (3,4,5)
- Mixed design ANCOVA were used to assess QOL differences between the AS and curative treatment group at baseline and 2-year follow-up

Results

- Of the 1688 patients enrolled at baseline, 1057 were followed-up at two years after diagnosis
- 475 (45%) underwent curative treatment
- 582 (55%) were on AS
- The curative treatment group had significant declines in all QOL measures from baseline, while the AS group had only minimal changes in most measures
- The time by group interaction was significant for the QOL measures of sexual function, urinary incontinence, hormonal function, and Mental Component Summary

Results

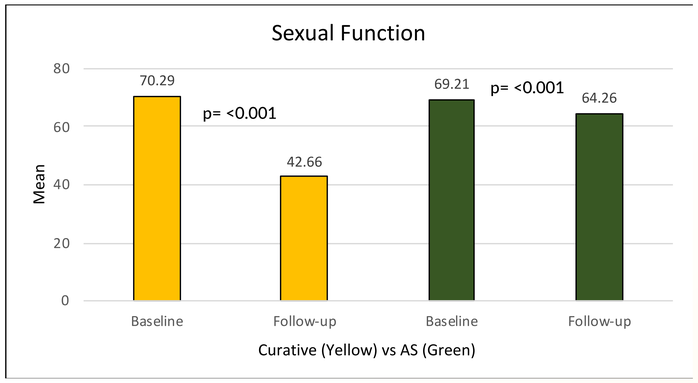

Figure 1. Mean difference of sexual function of Tx and AS group at baseline and two-year follow-up

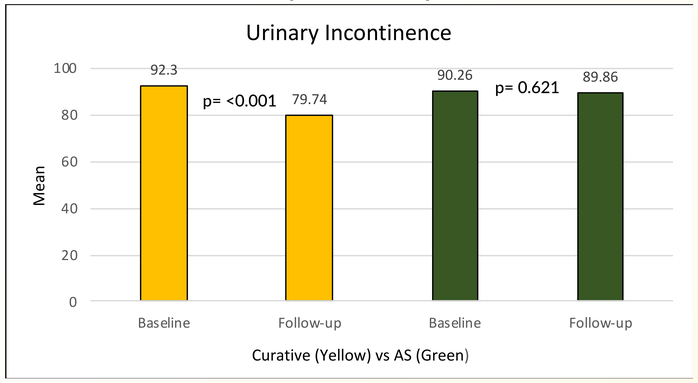

Figure 2. Mean difference of urinary incontinence of Tx and AS group at baseline and two-year follow-up

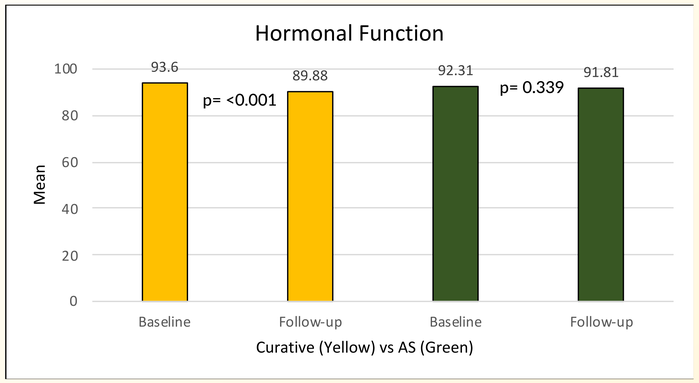

Figure 3. Mean difference in hormonal function of Tx and AS group at baseline and two-year follow-up

Results

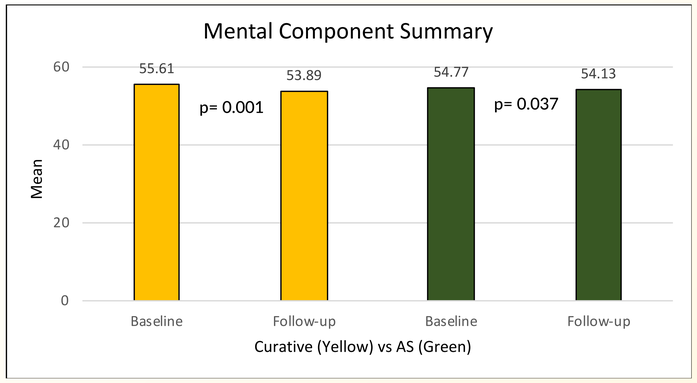

Figure 4. Mean difference in SF12-MCS of Tx and AS group at baseline and two-year follow-up

Discussion

- Most QOL measures deteriorated to a much larger extent in the curative treatment group, particularly in sexual function
- We are currently collecting 5-year follow up data to evaluate longer term treatment impact (6)
- Understanding the differences in QOL between men with LPC who choose to pursue AS or curative treatment is critical to informing future treatment guidelines and protocols for LPC
- Analyses stratified by race are in progress

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Introduction

Low Risk Prostate Cancer:

- PSA levels <10ng/mL
- Prostate Cancer Grade Group of 1
- Clinical tumor stage of cT1 to cT2a

Risk Group*	Grade Group	Gleason Score
Low/Very Low	Grade Group 1	Gleason Score ≤ 6
Intermediate (Favorable/Unfavorable)	Grade Group 2	Gleason Score 7 (3 + 4)
	Grade Group 3	Gleason Score 7 (4 + 3)
High/Very High	Grade Group 4	Gleason Score 8
	Grade Group 5	Gleason Score 9-10

Source: Prostate Cancer Foundation

Active Surveillance (AS):

Monitoring of low-risk cancer using periodic PSA testing, biopsy, and sometimes monitoring by MRI. This can delay or avoid invasive curative treatment.

Pursuing AS or curative treatment is a choice patients make with their physician.

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Methods

Two-Year Quality of Life Included Participants
N=1057

Mean age (SD)	63.5 (6.56)	62.2 (6.89)
Race n, %		
Black	81 (13%)	126 (26%)
White	501 (86%)	349 (73%)
Study Site n, %		
Metro Detroit	358 (61%)	259 (54%)
Georgia	224 (38%)	216 (45%)

*Still on AS after 2 years
**Curative at baseline or switched by 2 –year follow up

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Results

	Curative Treatment			AS			Time by Group Interaction
	Baseline	Follow-up	p	Baseline	Follow-up	p	p
SF12_PCS	52.7 (6.16)	51.58 (7.45)	<0.001	52.89 (6.27)	51.4 (7.08)	<0.001	0.387
SF12_MCS	55.61 (6.42)	53.89 (7.81)	<0.001	54.77 (6.43)	54.13 (7.6)	0.037	0.022
Urinary Incontinence	92.3 (14.6)	79.74 (20.01)	<0.001	90.26 (14.7)	89.86 (19.83)	0.621	<0.001
Urinary Irritative	84.05 (16.76)	87.17 (14.65)	<0.001	83.82 (16.99)	85.46 (14.49)	0.028	0.180
Bowel Function	96.41 (9.11)	93.63 (11.03)	<0.001	96.42 (9.23)	94.72 (10.98)	<0.001	0.150
Sexual Function	70.29 (26.29)	42.66 (29.34)	<0.001	69.21 (26.38)	64.26 (29.05)	<0.001	<0.001
Hormonal Function	93.6 (11.57)	89.88 (12.84)	<0.001	92.31 (11.59)	91.81 (12.74)	0.339	<0.001

All analyses adjusted for age in years, location, race, income (>=$70,000), marriage status, education status, and comorbidity

Analyses were performed using SPSS version 29 and R version 4.2.2.

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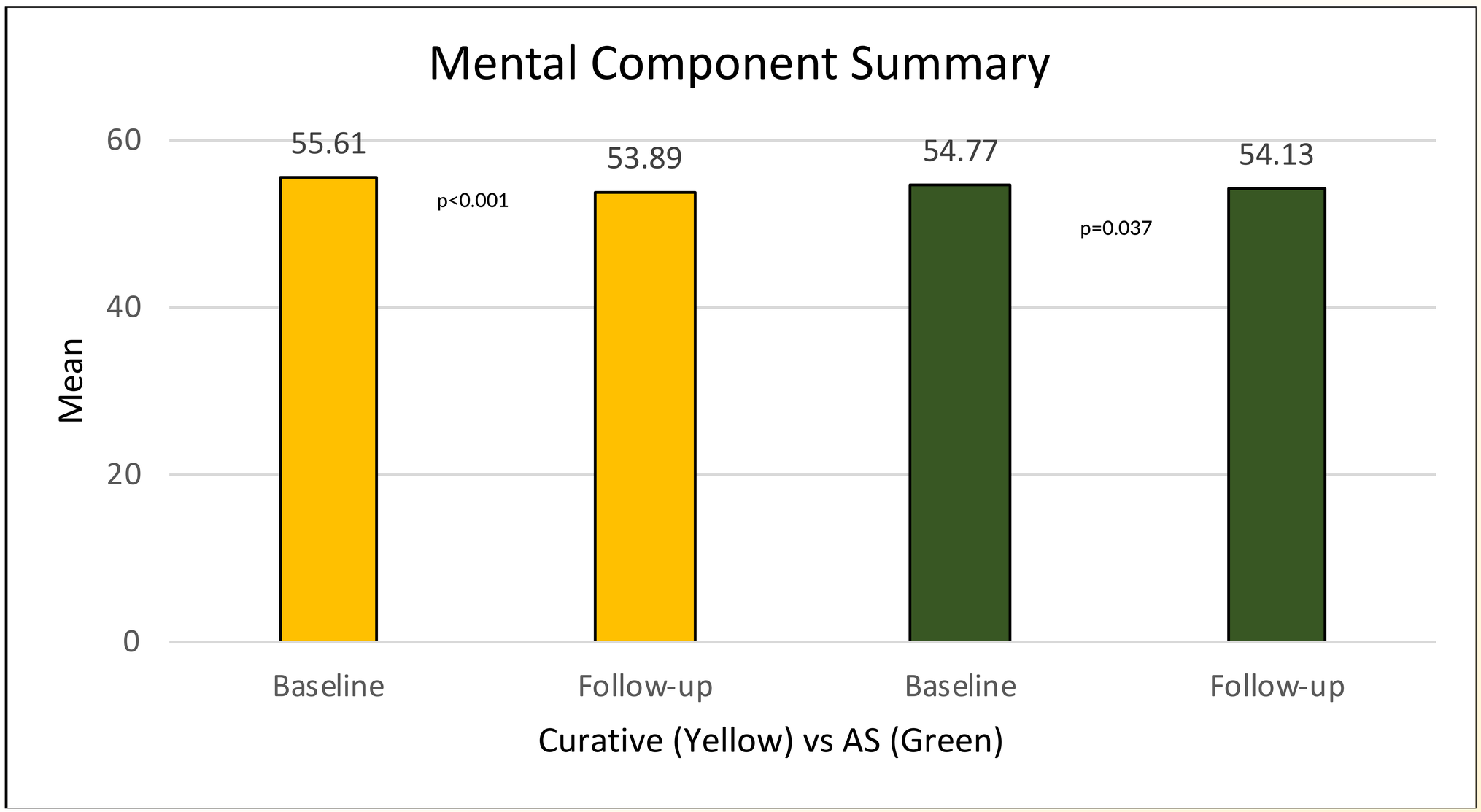
Results



Time by Group Interaction: p=0.022

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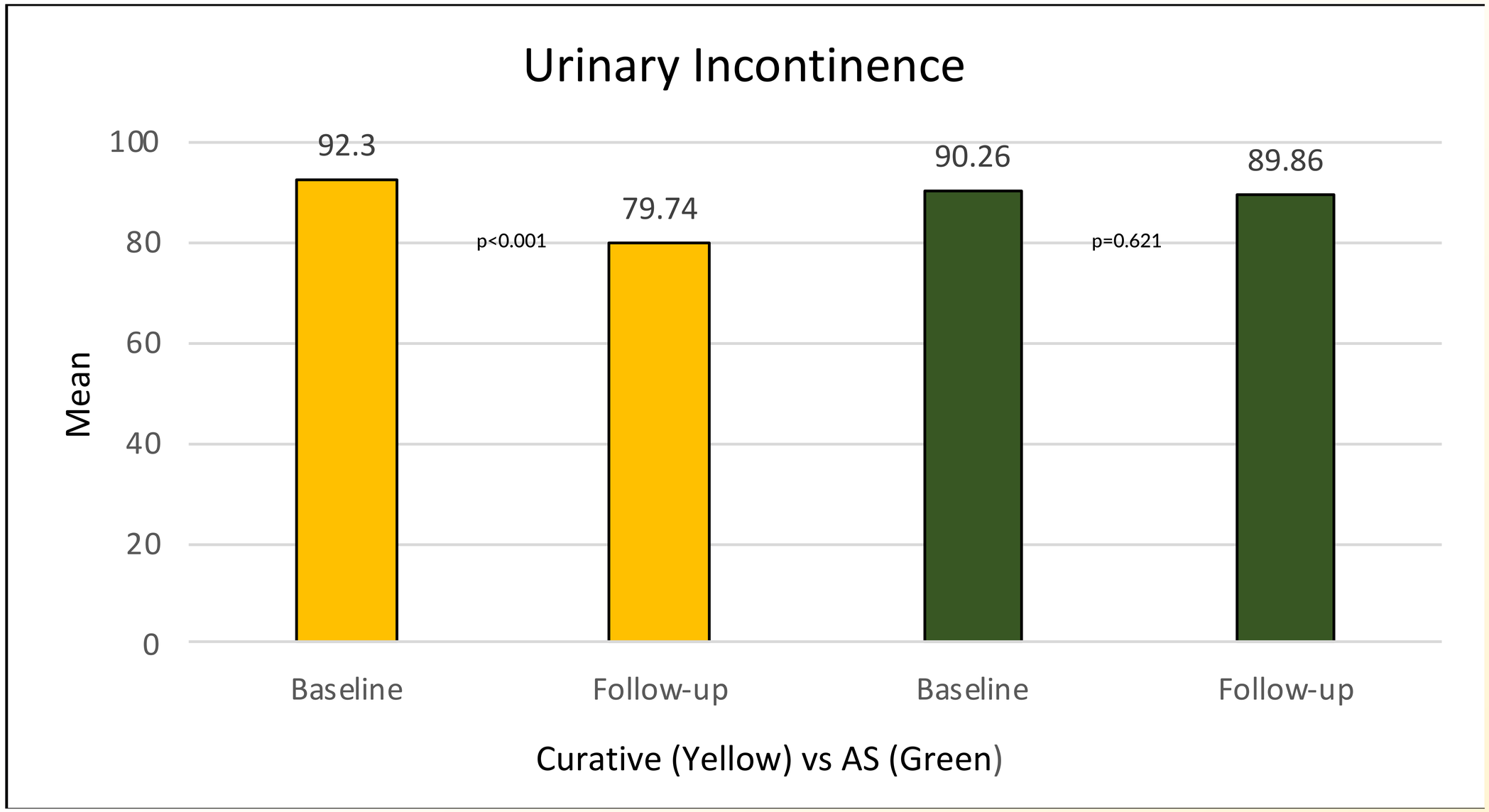
Results



Time by Group Interaction: p<0.001

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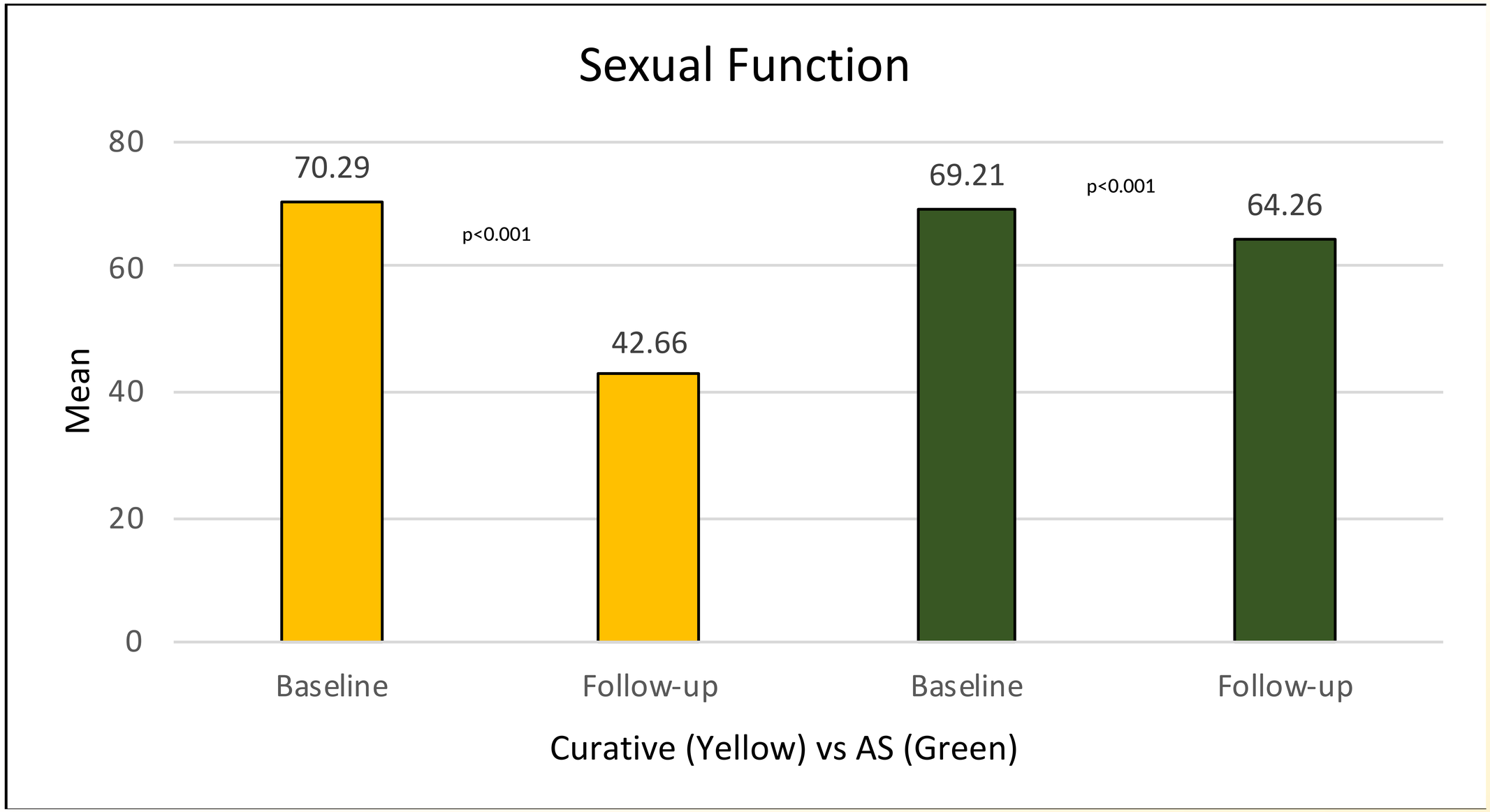
Results



Time by Group Interaction: p<0.001

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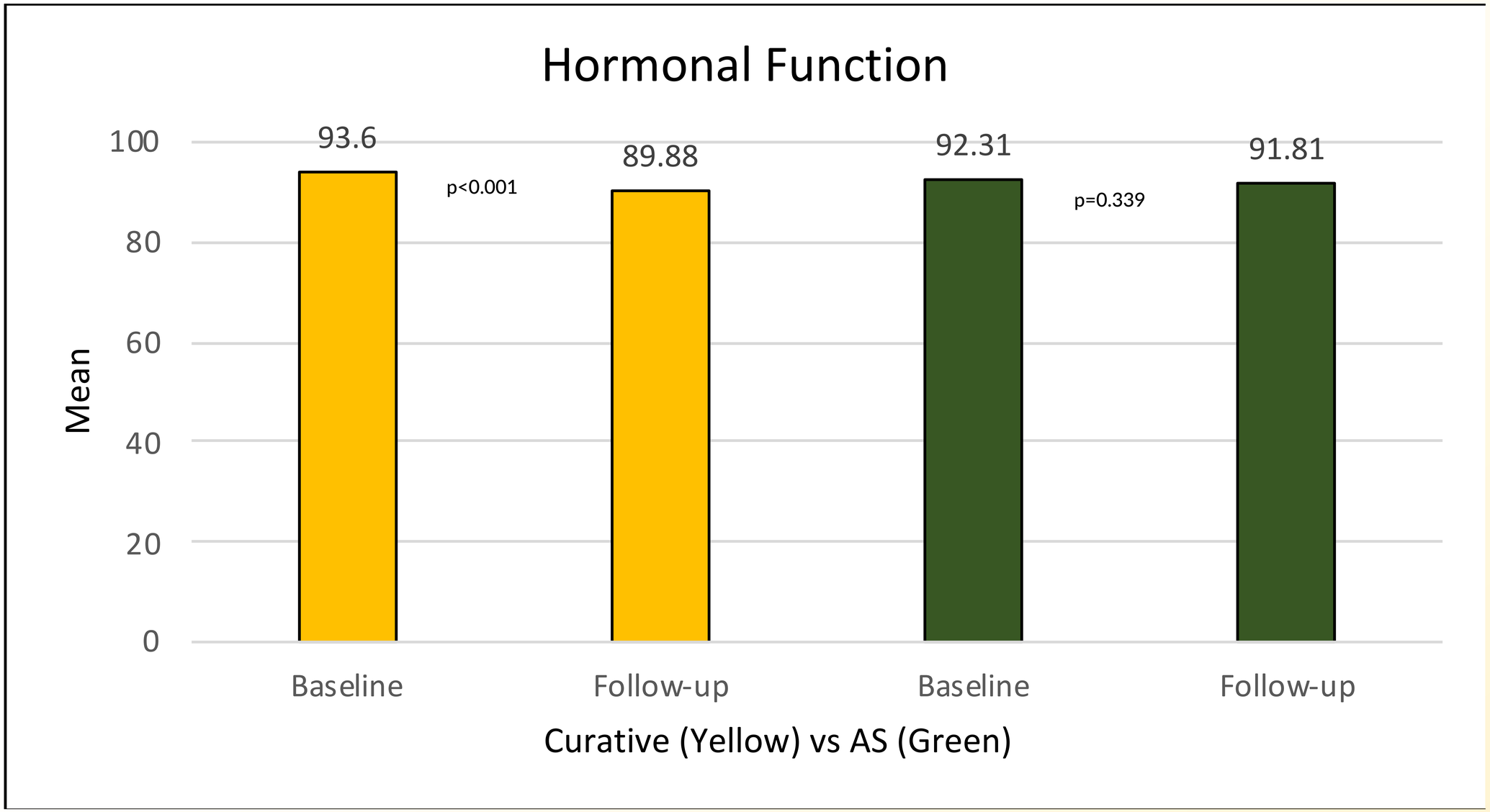
Results



Time by Group Interaction: p<0.001

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Discussion

- Summary: Most quality-of-life measures deteriorated to a much larger extent in the curative treatment group, particularly regarding sexual function, yet many patients and physicians still opt to immediately undergo curative treatment.

- Clinical Impact: Emphasizing the importance of not just mortality, but quality of life in low-risk prostate cancer patients can help pave the way forward in physician's discussions with patients about their treatment options and motivate clinical work to establish AS as the standard of care and set definitive selection criteria and screening and treatment guidelines that can be put in place in practices across the U.S.

- Public Health Impact: Our forthcoming analysis of our data by race and future related studies can give insight as to how non-clinical factors such as race, socioeconomic status, access to health insurance, etc. can impact patients' clinical course (i.e., diagnosis, rate of progression, feelings about AS) with LRPC and how effective and accessible a treatment choice AS can be for certain patient populations.

- Next Steps: We are currently analyzing our 2-year follow-up data stratified by race, and collecting 5-year follow-up data to evaluate longer term treatment impact.

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