

Testosterone Supplementation Therapy in Men Undergoing Active Surveillance for Prostate Cancer

Boback M Berookhim MD MBA, Rahul
Krishnan BS, Christian J Nelson PhD,
John P Mulhall MD MSc FECSM FACS

Memorial Sloan-Kettering Cancer Center
Sexual & Reproductive Medicine Program
Urology Service
NY, USA

Background

- Increasing use of testosterone replacement therapy throughout the United States
- Safety of testosterone replacement in men following treatment for prostate cancer continues to be established
 - Small studies with relatively short follow up demonstrating no increase in recurrence rates in men with low risk disease

Background

- Saturation model proposed regarding requirements for testosterone in prostate cell growth
- Sparse literature on testosterone supplementation in men with untreated prostate cancer

Objective

To report our experience with testosterone supplementation therapy in men undergoing active surveillance for prostate cancer

Methods

- Retrospective review of prospectively gathered data through CAISIS
- Patients with a diagnosis of prostate cancer in the active surveillance program visiting a single urologist specializing in andrology (JPM)
- All patients had symptoms of TDS and low to borderline total testosterone levels (300 ng/dL)

Methods

- After extensive discussion, all patients offered TRT with either:
 - Clomiphene Citrate
 - Transdermal testosterone
 - Intramuscular testosterone
- Patient underwent repeat prostate biopsy and prostate MRI every 12-18 months after enrollment

Results

Patient Demographics	
Number of Patients	17
Mean age at start of TRT	62±11 years
Median Gleason Score	3+3 (one 3+4 patient)
Mean follow up	32 months
Median number of repeat biopsies	2
Median number of repeat MRI studies	2
Testosterone Replacement:	
Clomiphene Citrate	5 patients
Transdermal Testosterone	9 patients
Intramuscular Testosterone	2 patients

Results

BEFORE TRT

- Mean total testosterone
- 237 ± 167 ng/dl
- Mean PSA
- 3.7 ± 1.2 ng/ml

AFTER TRT

- Mean total testosterone
- 603 ± 223 ng/dl
- Mean PSA
- 5.6 ± 1.1 ng/ml
- 5 patients' PSA
decreased >1 ng/ml

Results

- No patient had grade progression on repeat prostate biopsy
- No patient had stage progression based on repeat MRI
- There were no imperative indications for discontinuation of TRT during study follow up
- 2 patients discontinued TRT
 - 1 from advice of outside physician
 - 1 due to patient anxiety.

Conclusions

- Testosterone supplementation therapy appears to be safe in a very small cohort of well selected active surveillance patients with a short-term follow up
- Safety of testosterone supplementation in men with untreated prostate cancer requires further study with much larger cohorts of patients and longer term analysis