Evidence for the Integration of Total and Free Testosterone in Management of Prostate Cancer

Linda My Huynh, Maxwell Towe, Farouk M El-Khatib, Mohammad M Osman, Faysal Yafi, Thomas Ahlering

UC Irvine Health

Introduction

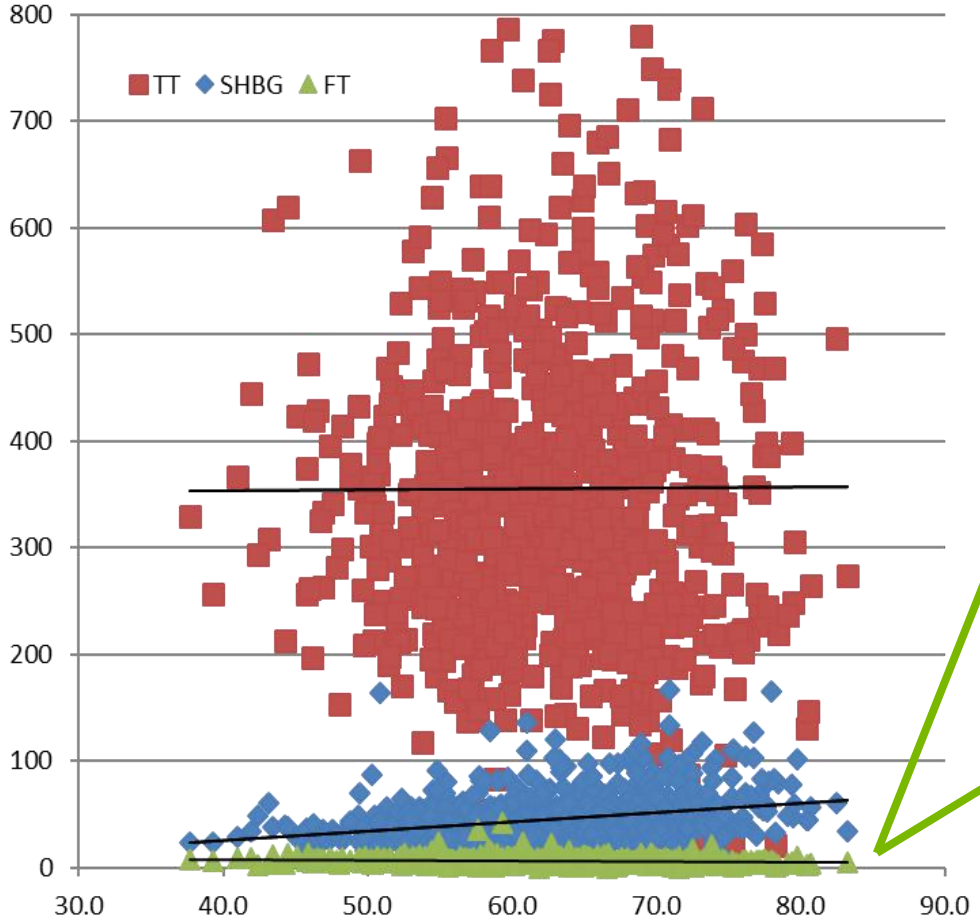
- Within the context of prostate cancer, there has been a historic fear of high serum testosterone, a hesitance towards testosterone supplementation, and a resultant lack of systematized screening.
- We seek to investigate the utility of serum total and calculated free testosterone in PCa management.

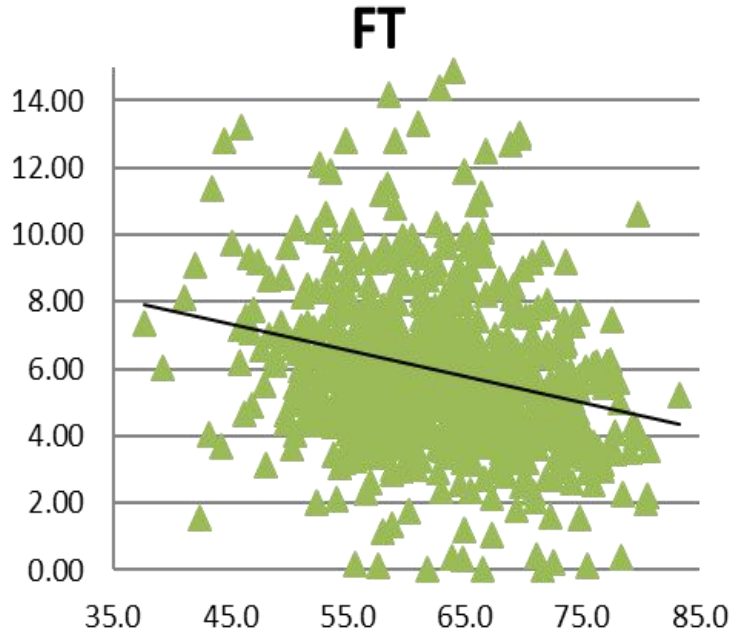
Materials and Methods

- 830 RP patients had prospectively-drawn total testosterone (TT), sex hormone binding globulin (SHBG), and calculated free testosterone (cFT).
- Impact of age on TT, cFT, and SHBG was assessed with linear regression.
- Correlation of patients with low cFT with adverse oncologic characteristics (i.e. GGG 9-10 or pT3/T4) was assessed with logistic regression and ROC curves.

Results – Effect of Age on Androgen Levels

- As men aged, total testosterone was stable and SHBG increased. In tandem, cFT decreased approximately 25% as men aged from 30s to 80s.

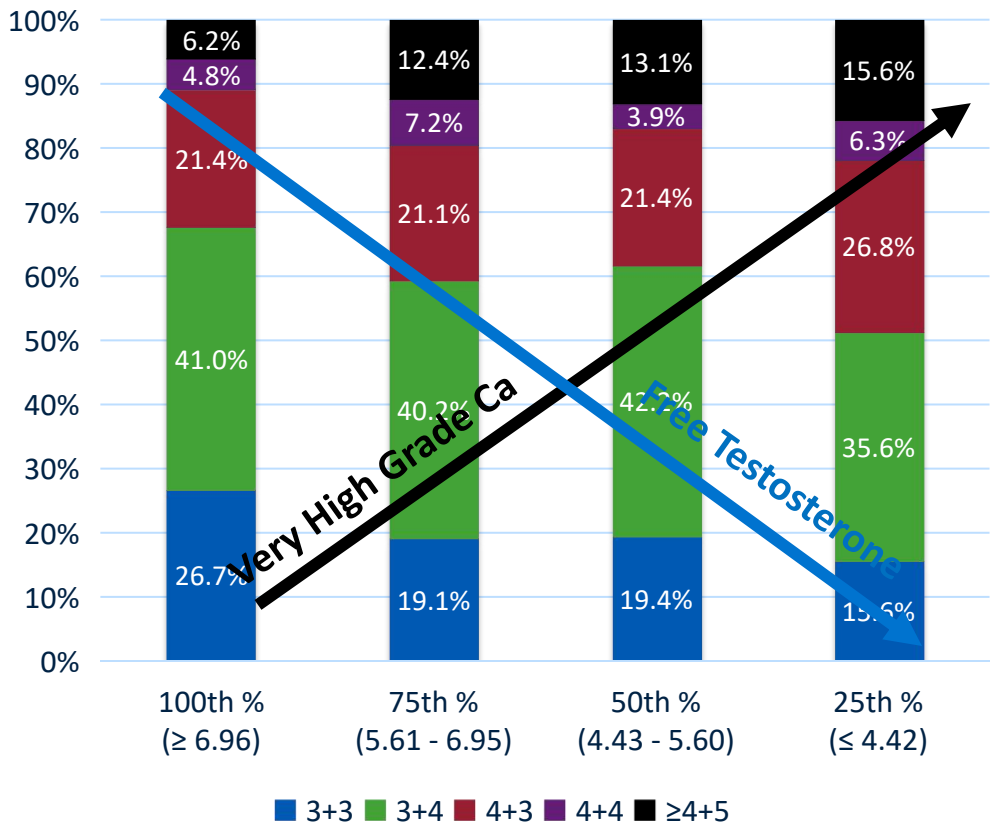


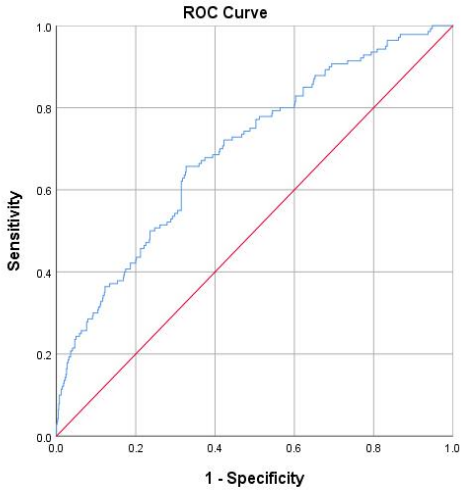


UC Irvine Health

Results – Effect of Age on Androgen Levels

- Each quartile of cFT decrease resulted in an increase in GGG 9-10 disease.





- Same trends in pT3/T4, seminal vesicle invasion, and lymph node involvement

UC Irvine Health