

Endogenous



Higher Free Testosterone as an Independent Predictor of Post-Radical Prostatectomy Recurrence

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Introduction

- Low (free) testosterone is associated with significant metabolic morbidity and, as recent data suggests, more aggressive prostate cancer.
- The present study seeks to examine the relationship between free testosterone and biochemical recurrence in radical prostatectomy patients.

Materials and Methods

- From 2009 to 2018, 687 patients underwent RARP by a single surgeon, with prospectively collected total and free testosterone, sex hormone binding globulin (SHBG), and PSA.
- All patients on TRT were excluded.

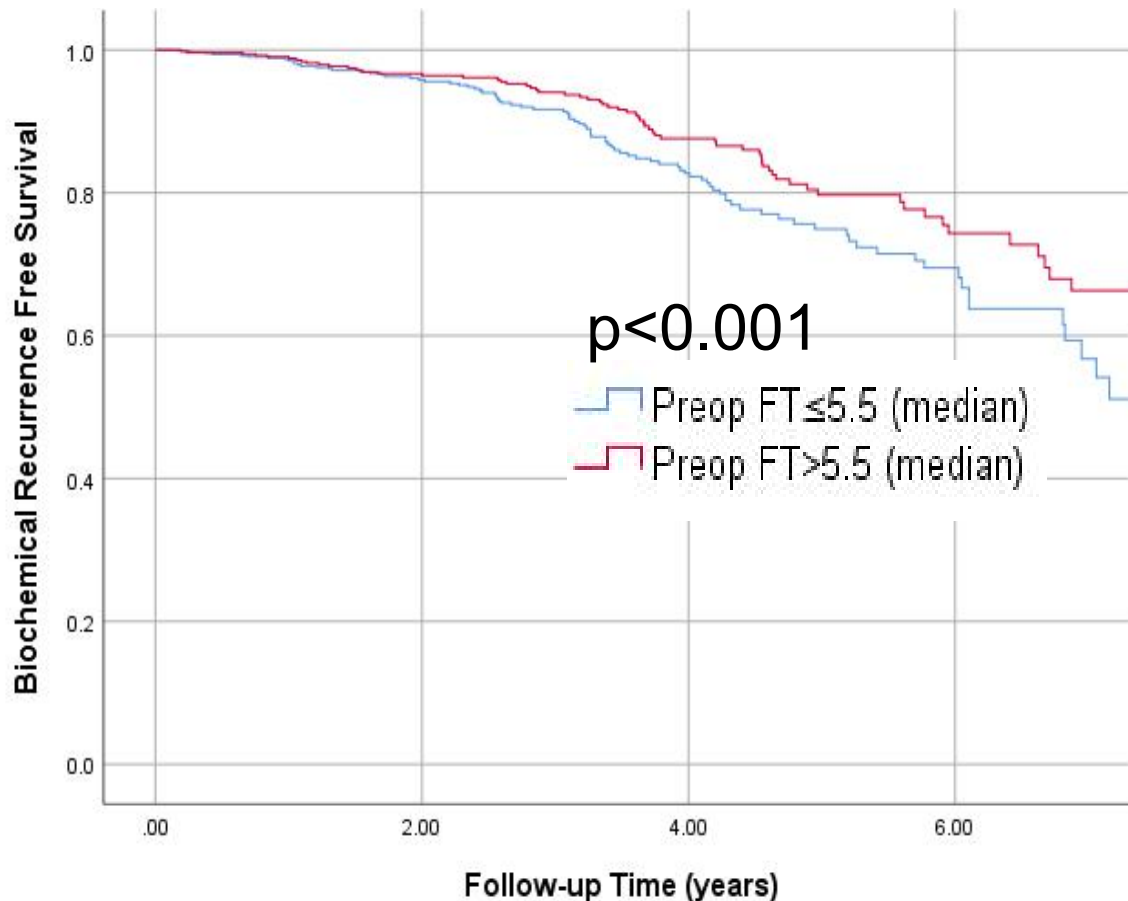


Primary Outcome: BCR at a median of 3.2 years

	No BCR		BCR in 3yrs		
	543		144		p
Preoperative Demographics	Mean	SD	Mean	SD	
Adjusted PSA (ng/mL)	6.8	4.2	13.6	11.7	<0.001
Age (years)	62.2	7.5	65.2	7.4	<0.001
Prostate Volume (mL)	54.1	20.3	56.3	20.3	0.226
Body Mass Index (Kg/m ²)	27.2	3.6	27.4	3.8	0.550
Oncologic Metrics	N	%	N	%	
Pathologic Grade					<0.001
1	161	23.6	2	1.4	
2	316	46.3	16	11.2	
3	139	20.4	46	32.2	
4	32	4.7	14	9.8	
5	34	5	65	45.5	
Pathologic Stage					<0.001
pT2	514	74.9	38	26.4	
pT3	172	25.1	106	38.1	
Androgen Levels	Mean	SD	Mean	SD	
Preoperative TT (ng/dL)	361.0	160.0	342.0	175.4	0.208
Preoperative SHBG (nmol/L)	45.4	21.3	49.5	24.2	0.041
Preoperative FT (ng/dL)	6.1	3.1	5.4	2.4	0.007

Secondary Outcome: Cox Regression

Each unit FT increase reduced likelihood of recurrence by 0.36x, after accounting for high Gleason grade.



Patients with endogenous low preoperative FT are likely to benefit oncologically via testosterone replacement.

