



Higher Free Testosterone Predicts Faster Potency Recovery After Robot Assisted Radical Prostatectomy

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1. Introduction and Objectives

Sexual dysfunction remains a significant problem for many men post robot assisted radical prostatectomy (RARP). Low testosterone is a well-known cause of sexual dysfunction. This study seeks to assess whether low preoperative free testosterone (FT) reduces potency recovery for men following RARP.

2. Materials and Methods

The study group included 442 men undergoing RARP by a single surgeon with:

- 1- Preoperative IIEF-5 22-25
- 2- Prospectively collected FT values
- 3- Responses to questionnaires at 3 and 15 months

Potency recovery (defined as two affirmative answers to ESI) at 3, 9, and 15 months was compared between men with preoperative low (FT < 5.1 ng/dL) and normal FT (>5.1 ng/dl). Logistic regression was used to adjust for significant covariates.

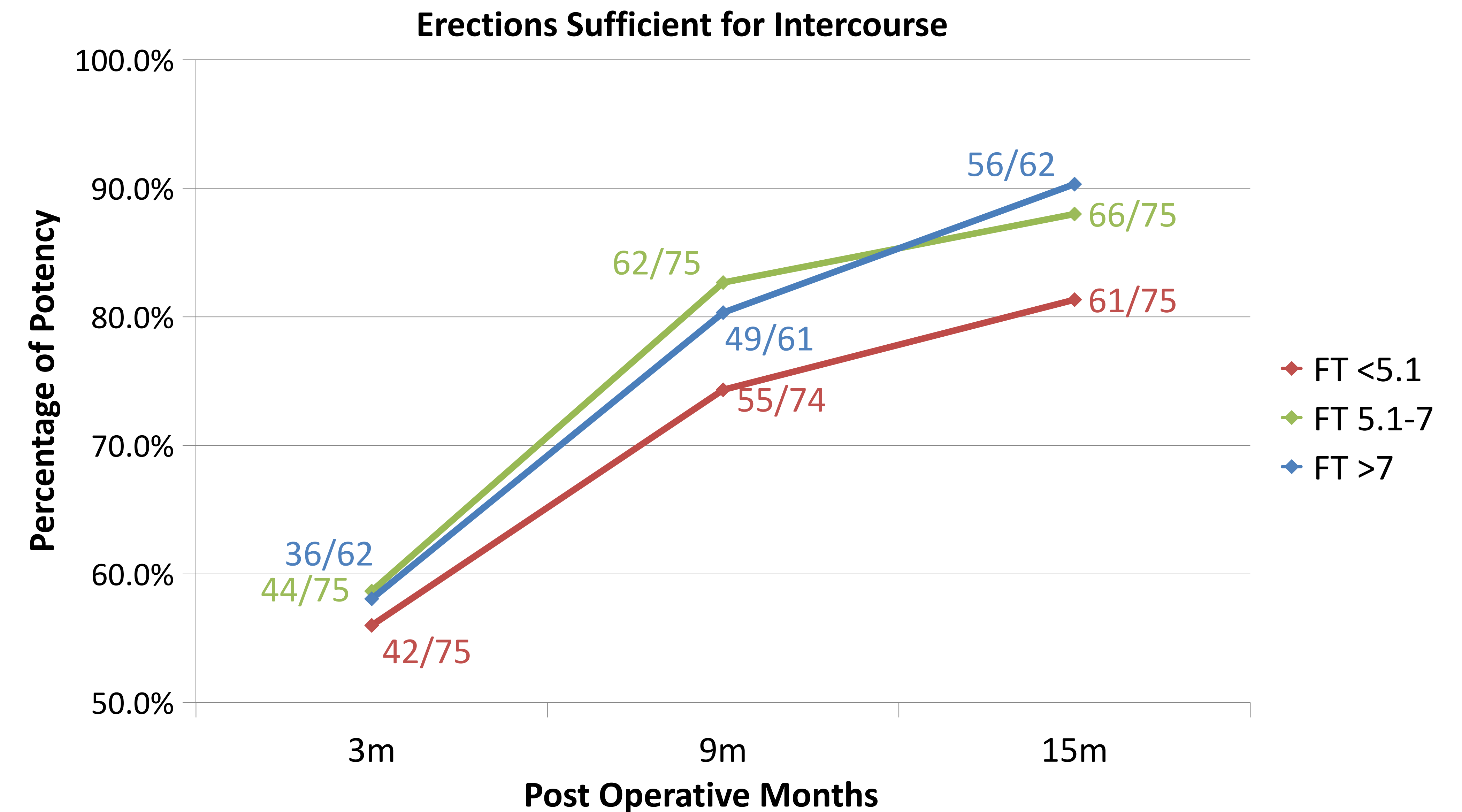
3. Results, Baseline Demographics

Table 1. Baseline Demographics of Study Cohort, according to tertiles of FT

	FT <5.1 N=75	5.1 ≤ FT ≤ 7 N=75	FT > 7 N=62
Age	63.8 (7.4)	65.6 (6.1)	62.4 (7.2)
Preoperative PSA	8.2 (6.9)	6.9 (4.1)	7.4 (7.9)
AUASS	7.8 (7.9)	8.0 (7.1)	8.4 (7.9)
Bother	1.5 (1.6)	1.4 (1.4)	1.5 (1.5)
IIEF-5	24.3 (0.9)	24.3 (0.9)	24.2 (1.0)
Bilateral Nerve Sparing, % (no.)	88.0% (66)	86.7% (65)	90.3% (56)
Pathologic Stage, % (no.)			
pT2	73.0% (54)	73.0% (54)	74.2% (46)
pT3/Pt4	27.0% (20)	27.0% (20)	25.8% (16)
Pathologic Gleason, % (no.)			
1	24.0% (18)	22.7% (17)	32.3% (20)
2	36.0% (27)	45.3% (34)	33.9% (21)
3	26.7% (20)	18.7% (14)	24.2% (15)
4	2.7% (2)	4.0% (3)	6.5% (4)
5	10.7% (8)	9.3% (7)	3.2% (2)
Prostate Weight (g)	49.4 (18.9)	51.0 (18.3)	50.7 (18.0)

3. Results, Potency Recovery Curves

Of 442 men, 75 (17.0%) had preoperative FT < 5.1 ng/dL (low), 75 (17.0%) had preoperative FT between 5.1 and 7 ng/dL (middle) and 62 (14.0%) had FT > 7 ng/dL (high).



- In the low group, 56.0% (42/75), 74.3% (55/74) and **81.3%** (61/75) were potent at 3, 9 and 15 months, respectively.
- In the middle group, 58.7% (44/75), 82.7% (62/75) and **88.0%** (66/75) were potent at 3, 9 and 15 months respectively.
- In the high group, 58.1% (36/62), 80.3% (49/61) and **90.3%** (56/62) were potent at 3, 9 and 15 months respectively.

Throughout recovery, the low group had lower rates of sexual function recovery compared to both middle and high groups. For men with FT level below the 25th percentile, 15 month potency rate was **81.2%** (39/48) compared to **90.3%** (56/62) in men with FT > 7ng/dL.

4. Conclusion

FT threshold <5.1 ng/dL was predictive of **decreased return of potency at 3, 9 and 15 months post-RARP**. These patients should be considered for preoperative testosterone replacement therapy.