

5 Years of Robotic Assisted Laparoscopic Radical Prostatectomy (RALP): Medium Term Oncological Outcomes of 724 patients

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Introduction

A recent publication from central Europe showed 94% 3-year biochemical recurrence (BCR) free survival in a large cohort of patients (Suardi et al, Urology 2012). As the initial cohorts of our UK patients who underwent RALP in the UK pass by 5 years of follow-up we have taken the opportunity to review the oncological outcomes.

Methods

722 patients underwent RALP in our institution in the past 5 years. A database sourcing information from the electronic patient record was updated to include contemporary follow-up data. Post operative outcomes including margin status, actuarial and predicted BCR free survival were evaluated. BCR was based on the detection of PSA above the assay threshold (<0.04) leading to a clinical diagnosis of recurrence, backdated to the first positive test date.

Results

Number	724
Period of treatment	2007-2012
Mean age	61 years
Mean (range) follow-up	19.8 (0-61 months)
Mean PSA (SD)	8.76 (5.5)
Deaths	1 (metastases)

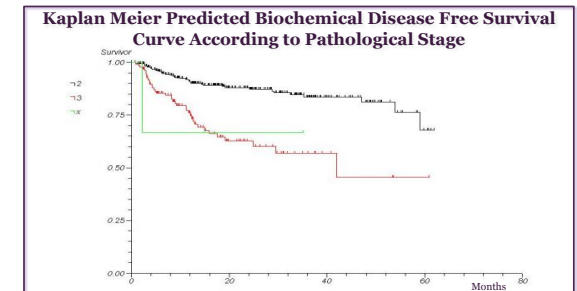
Pre-op Staging	
MRI stage	Number (%)
T1	73 (10%)
T2	360 (49.7%)
Suspicious for T3	52 (7.1%)
T3a	17 (2.3%)
T3b	4 (0.5%)
Tx	218 (30.1%)

Pre-op grading	
Biopsy Gleason Score	Number (%)
3 + 3	327 (45.1%)
3 + 4	264 (36.4%)
4 + 3	59 (8.1%)
4 + 4	10 (1.3%)
3 + 5	4 (0.5%)
4 + 5	8 (1.1%)
5 + 4	1 (0.1%)
x	51 (7%)

Actuarial Biochemical Recurrence Free (BCR) Survival (mean follow-up of 19.8 months)		
	Margin +ve	Margin -ve
Gleason 6		
pT2	7/9 = 77.8%	131/136 = 96.3%
pT3	6/6 = 100%	7/7 = 100%
Gleason ≥ 7		
pT2	61/76 = 80.3%	296/322 = 91.9%
pT3	63/89 = 70.8%	67/80 = 83.7%

Final Pathological Stage	Number (%)
pT2a	89 (12.2%)
pT2b	17 (2.3%)
pT2c	446 (61.6%)
pT3a	117 (16.1%)
pT3b	55 (7.5%)

Final Pathological Gleason Grade	Number (%)
Gleason 6	162 (22.3%)
Gleason 7	531 (73.3%)
Gleason 8	11 (1.5%)
Gleason 9	20 (2.7%)



Positive Surgical Margin Rates Compared to Reported Studies		
	T2	T3
Ogden et al, 2012 (n=724)	15.7%	58.1%
Neal et al, 2011 (n=500)	16.1%	T3a - 30.4% T3b - 55%
Suardie et al (2012)	2.5%	T3a - 34% T3b - 50%
Patel et al, 2006 (n=500)	T2a - 2% T2b - 4% T2c - 23%	T3a - 23% T3b - 46%
Novara et al, 2012 (systematic review)	9% (4-23)	37 (29-50)

Conclusions

Our audit shows comparable oncological outcomes to the reported literature.

Margin status of organ confined cases may be a good quality indicator amongst units with comparable patient groups.

Positive margin rates in pT3 cases likely vary according to patient selection i.e the use of RALP for high risk disease in a multi-modal therapy approach.

Significant investment of time and resources are required for maintaining accurate databases.

