

ICIQ-SF Score Versus Pad Use for Continence Assessment Following Radical Prostatectomy

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Background

- Urinary incontinence (UI) after radical prostatectomy (RP) is a predictable consequence
- UI assessment is an essential component of patient follow-up following RP
- The ICIQ-SF questionnaire data and number of pads used per day are often used to define, assess and monitor UI
- Retrospective analysis of a large prospectively collected cohort of men was undertaken to determine the relationship between the number of pads used per day and the reported ICIQ-SF score 12 months following RP.

Methods

- Patients undergoing RP surgery for clinically localised or for locally advanced prostate cancer were recruited between September 2002 and December 2011
- Patients were excluded if they were undergoing salvage RP or had previously undergone radiation therapy
- Patient demographics and surgical characteristics were recorded
- Continence status was assessed at 12 months following surgery using the Spanish version of the ICIQ-SF and the number of pads used in 24 hours

Analysis

- McNemars test was used to determine if the number of men defined as continent differed between the 'no pad' and ICIQ-SF = 0 definitions of continence.
- Spearman rank-correlation was used to measure the strength of the relationship between the number of pads used and the ICIQ-SF scores.
- Jonckheere-Terpstra analysis of variance was used to determine whether the ICIQ-SF scores increased with increasing levels of pad usage (0, 1, 2, 3 or more pads/day).
- Pairwise Wilcoxon rank-sum tests with Bonferroni correction were used to determine which pads use levels had significantly different ICIQ-SF scores.
- A 5% significance level was used for all analysis.
- R version 3.4.3 statistical software was used.

Table 1: Characteristics of the dataset

Patient Characteristics	Mean ± SD (Range) or n (%)
Age (yrs)	63 ± 7 (41, 83)
Height (m)	1.70 ± 6 (1.25, 1.93)
Weight (Kg)	79.7 ± 10 (50, 124)
BMI (Kg.m ⁻²)	27.4 ± 3.4 (16.3, 48)
PSA (ng.mL ⁻¹)	9.4 ± 8.3 (2, 136)
Prostate Volume (mL)	49.3 ± 24.4 (5.3, ±196.3)
Membranous Urethral Length (mm)	14.4 ± 3.2 (6.7, 34.3)
Gleason Grade Group	
1	424 (57%)
2	129 (17%)
3	48 (6%)
4	91 (12%)
5	38 (5%)
Surgical characteristics	
Type of surgery RRP/LRP	545 (73%)/201 (27%)
Nerve sparing status	431 (58%)/315 (42%)

Results

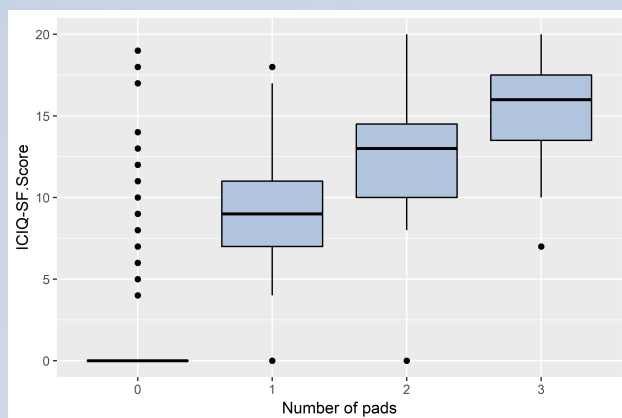
- 746 patients were included in the analysis.
- Overall, the characteristics of the patients were typical of men undergoing RP (Table 1)
- The continence rate was 82% using the 'no pad' definition of continence versus 78% using the zero ICIQ-SF score definition of continence (Table 2). Classifications differ significantly (McNemar's test $p < 0.001$).

Table 2: Pad Use versus ICIQ-SF Scores (dichotomised)

N (%)	Pads = 0	Pads > 0	Total
ICIQ-SF = 0	579	3	582 (78.0)
ICIQ-SF > 0	35	129	164 (22.0)
Total	614 (82.3)	132 (17.7)	746

- The number of men using 1, 2, 3 or more pads was 74 (9.9%), 31 (4.2%) and 27 (3.6%) respectively.
- A strong positive (Spearman) correlation (0.865, $p < 0.001$) was observed between the ICIQ-SF score and the number of pads used (Figure 1).
- ICIQ-SF scores increased significantly with increasing levels of pad usage (Jonckheere-Terpstra: $p < 0.001$, Figure 1).
- ICIQ-SF scores differed significantly between all pairs of pad use levels (Wilcoxon rank-sum: $p < 0.018$, Figure 1).
- The mean (SD) bother score for men who were incontinent using Q3 of the ICIQ-SF was 4.5 (2.2).

Figure 1: ICIQ-SF Scores for different pad use levels



Discussion

- Continence recovery is a fundamental consideration for men following RP, however no consensus has been reached to consistently define and assess post prostatectomy UI.
- We observed a strong positive correlation between the ICIQ-SF score and the number of pads used with a significant difference in the ICIQ-SF score between different numbers of pad used in large cohort of patients 12 months following RP.
- Although some patients are classified differently according to method for assessing UI both methods are able to differentiate between levels of incontinence

Conclusions

Pad use is clinically accessible and can be used to define and assess urinary incontinence outcomes at 12 months following radical prostatectomy