363

Peterson A[1], Chen J[2]
1. *Duke University,* ***2.*** *Center for Prostate Disease Research (CPDR)*

PATIENT REPORTED INCONTINENCE AFTER RADICAL PROSTATECTOMY: MOST PATIENTS LEAK!

Hypothesis / aims of study

To investigate the prevalence of patient reported post-radical prostatectomy urinary incontinence (post-RPUI). We hypothesized this to be much higher than previously thought.

Study design, materials and methods

We obtained IRB approval to query the Center for Prostate Disease Research (CPDR) database on all patients undergoing radical prostatectomy (RP) between 1990 and 2007 to establish the prevalence of patient reported post-RPUI. The CPDR database is a Department of Defense (DOD)-sponsored multicenter national repository containing clinical information on patients from four United States military hospitals and one civilian hospital. Surgical data is prospectively captured and patients are also asked to fill out a questionnaire during each follow-up visit and this data is prospectively entered by a study coordinator. We examined clinical and pathological characteristics as well as patient reported continence status and the time from surgery that it took to develop continence in the self-reported patient questionnaire. The specific question in the follow-up questionnaire addressing continence asks “since surgery do you ever lose urine?” (yes = incontinent versus no = continent). There is no data available addressing quantification or qualification of the incontinence such as pad weight, number of pads used per day or urodynamic parameters. Continence follow-up time was calculated as time from surgery to the date that the patient first answered “no” to incontinent status. Patients were only counted as incontinent if they answered “yes” to the incontinence question greater than one year after surgery and only in cases where the patient reported the presence of incontinence (UI) in every follow up encounter that is recorded. They were counted as continent if they had at least once answered “incontinence no” during any of the follow up visits after RP. Those that answered " incontinence no" a single time were considered to be continent for the remainder of the follow-up regardless of whether they again answered “incontinence yes" at a later time. Frequencies were reported for categorical patient features (pathological T stage, margin status, nerve sparing) while measures of central tendency and dispersion were reported for continuous patient features (age, blood loss). Chi square test was used to examine the differences of categorical patient features between continence and incontinence groups. Wilcoxon test was used to establish the difference of continuous patient features between continence and incontinence groups. Unadjusted Kaplan-Meier survival analysis and log-rank test were used to examine the difference of continence-free survivals between the nerve sparing done and not done groups. The multivariable Cox proportional hazard model was used to predict continence by using clinic-pathological characteristics. A P value of 0.05 was adopted as statistically significant. The SAS version 9.1 (SAS Institute, Cary, NC) was used for all data analysis.

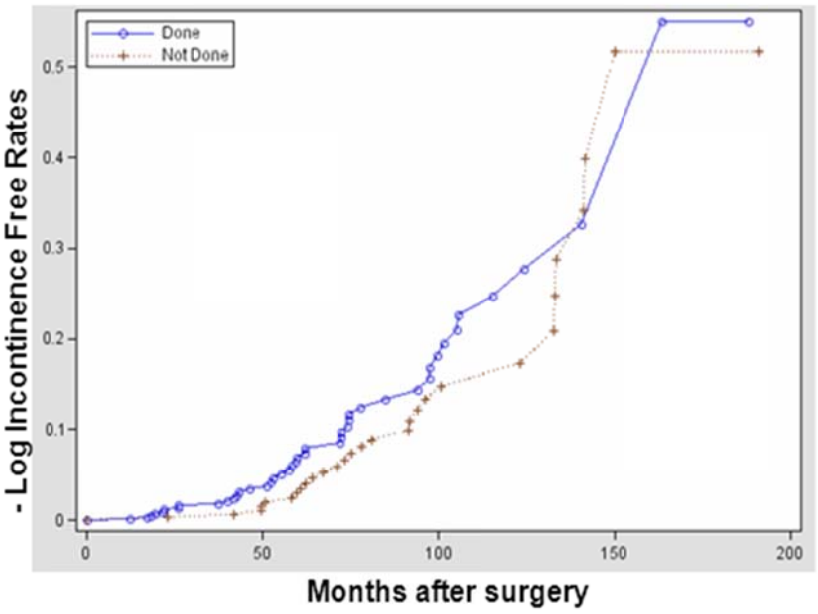
Results

There were 6003 patients available for review, 4374 patients had no additional hormonal therapy or /and radiation therapy. Of these 4374, 1616 (37%) had at least one continence follow up more than one year post surgery. The demographics and surgical data for both the cohort available for review and those with incomplete data are similar without statistically significant differences. Of the 1616 patients in the study cohort, 1459 (90.3%) reported SUI more than one year after RP with a median follow-up time of 50.7 months (range 12 – 216 months), significantly shorter than men who did not report UI (median 63.2 months, range 12.9-199.6 months, P = 0.0010). Kaplan-Meier incontinence-free curves do not show any significant difference of incontinence-free survivals between those who underwent nerve sparing and those who did not (log rank P = 0.4328), Figure 1. Age at the time of surgery is an independent risk factor for post-RPUI (OR=1.021, P = 0.0003). There were 1231 patients with complete data for analysis of the nerve sparing technique. Of those1231, 1118 (90.8%) had self reported post-RPUI more than one year after surgery indicating the nerve sparing status had no effect on the rates of patient reported post-RPUI. Table 1.

Figure 1. Kaplan-Meier incontinence survival curves comparison between nerve sparing done and not done groups (1990-2007) (P=0.4628).

Table 1. Multivariate Cox proportional hazard model predicting post-RPUI.

Variable	OR	95% CI of OR	P value
Age at surgery (*continuous*)	1.021	1.009-1.032	**0.0003**
Estimated blood loss (*continuous*)	1.000	1.000-1.000	0.3032
Pathological T stage (***pT3-4 vs pT2***)	0.905	0.721-1.136	0.3873
Margin status (*Pos vs neg*)	0.963	0.757-1.225	0.7589
Nerve sparing (*Not done vs done*)	0.895	0.770-1.039	0.1457



Interpretation of results

Male incontinence is uncommon in the general population and is define as involuntary urine loss reported by the patient or a positive result on a stress test(1). The historical reported prevalence of post-RPUI in the literature varies from 2.5% to 87%. This study focuses on an analysis of patient self reported rates of post-RPUI with 1459/1616 (90.3%) having this complaint more than one year after radical prostatectomy; fitting the ICS definition for UI. Our data indicates this is much higher than prior reports in the literature. The nerve sparing techniques pioneered by Walsh have been associated with a reported reduced incidence of post-RPUI (2;3). Therefore, we performed an analysis of the nerve sparing data failing to demonstrate any improvement in post-RPUI with this technique. Only 37% of the entire group contains complete continence information for evaluation in this dataset, theoretically representing a selection bias. Also, this study addresses only a binary report provided by the patient without information on the quality, duration or symptoms associated with the UI. However, our study is unique in that it evaluates the prevalence of self reported post-RPUI without physician evaluation, an intervention that is thought to possibly minimize the rates of reported post-RPUI. Despite these limitations this is still the largest study evaluating patient self reported rates of post-RPUI in the contemporary literature.

Concluding message

Our data indicates that patient reported post-RPUI is higher than expected but is not related to the nerve sparing technique, stage of cancer nor blood loss at the time of surgery.

References

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Was this study approved by an ethics committee?	**Yes**
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Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**