

A COMPARATIVE ANALYSIS OF PHYSIOTHERAPY FOR STRESS URINARY INCONTINENCE AFTER OPEN OR ROBOTIC-ASSISTED RADICAL PROSTATECTOMY

Hypothesis / aims of study

According to some studies, it is estimated that approximately 49% of men who undergo a radical prostatectomy experience stress urinary incontinence, making it one of the most pervasive side effects of the surgery. One non-invasive intervention aimed at improving stress urinary incontinence after radical prostatectomy is physiotherapy, which can aid an individual in regaining continence by strengthening and increasing endurance of the pelvic floor muscles. Physiotherapy has been observed to decrease the severity of stress urinary incontinence, shorten the duration of symptoms after surgery, and improve quality of life. However, to the best of our knowledge, there has yet to be a rigorous, peer-reviewed study as to whether physiotherapy differentially effects men who undergo an open versus robotic-assisted radical prostatectomy. Thus, the purpose of our study was to determine whether the benefits of physiotherapy on stress urinary incontinence significantly differ between those men who had open versus robotic-assisted laparoscopic radical prostatectomy.

Study design, materials and methods

This study conducted a retrospective analysis of data collected from a prostate cancer rehabilitation clinic, offering free physiotherapy sessions to men who have undergone a radical prostatectomy. Data was collected from participating men at several points in time: approximately three weeks, or less, prior to their radical prostatectomy; at three- and nine-months post-surgery; and on an annual basis for four-years post-surgery. Pre-surgery and three-months post-surgery, a full clinical assessment is done by a trained nurse. Patient-reported outcomes PROs are collected at all time points. This study examined all men who undertook physiotherapy by the nine-month post-surgery follow-up. The primary outcome of interest was the severity of stress urinary incontinence symptoms at two-years post-surgery, the secondary outcome of interest the severity of overactive bladder symptoms at the same end point. Symptom severity was measured by the ICIQ-UI, overactive bladder was measured by the OAB-V8. A multivariate time series was used to compare the changes longitudinally, from three-months post-surgery to two-years post-surgery.

Results

Data from 2,431 men was reviewed. Of those, 119 had a radical prostatectomy and attended physiotherapy. This group was nearly evenly split between treatment types: 51% (n = 61) had an open radical prostatectomy, and 49% (n = 58) had a robotic-assisted prostatectomy. These subgroups significantly differed in terms of their age at time of surgery; men who had undergone robotic radical prostatectomy were significantly older than men who had undergone open radical prostatectomy (mean age = open: 62 years, robotic: 64 years; p = 0.03). There were no significant differences between these groups in terms of severity of self-reported stress urinary incontinence symptoms (ICIQ-UI mean score = open: 1.9, robotic: 3.0; p = 0.08); or overactive bladder symptoms (OAB-V8 mean score = open: 8.9, robotic: 10.3; p = 0.18) scores prior to surgery.

While there were no significant differences between the subgroups in terms of the ICIQ-UI or OAB-V8 scores at either 3- or 9-months post-surgery, the changes in these scores over time is worth noting. Those who had an open radical prostatectomy went from a mean pre-surgical ICIQ-UI score of 1.9 to 10.4 and 7.3 at 3-months and 9-months post-surgery, respectively. Those who had robotic prostatectomy when went from a mean pre-surgical ICIQ-UI of 3.0 to 11.8 and 8.6 at 3-months and 9-months post-surgery, respectively. A similar pattern was observed for mean scores of the OAB-V8.

The results of the multivariate time series analysis indicate that there were no significant treatment effects, either for stress urinary incontinence or overactive bladder symptoms, suggesting that physiotherapy had the same effect for both subgroups.

Interpretation of results

While previous research has already established that physiotherapy aids in regaining continence after prostatectomy procedures, no such study has specifically examined whether the effects vary depending on the type of prostatectomy procedure. Based on our analyses, no statistically significant differences were found between those undergoing an open or robotic-assisted prostatectomy. Men who had undergone robotic-assisted and open radical prostatectomy did not differ in terms of their stress urinary incontinence or overactive bladder symptoms after receiving physiotherapy. This would suggest that the effects of physiotherapy do not differ depending on what type of radical prostatectomy procedure is done.

Concluding message

Physiotherapy to treat stress urinary incontinence after radical prostatectomy has demonstrated to be effective for men undergoing either an open or robotic-assisted prostatectomy. Clinicians can confidently recommend this rehabilitation strategy to those recovering from radical prostatectomy experiencing incontinence symptoms, regardless of the surgical technique.

Disclosures

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