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Quality of life after open or robotic prostatectomy, cryoablation or brachytherapy for localized prostate cancer

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Purpose: Health related quality of life concerns factor prominently in prostate cancer management. We describe health related quality of life impact and recovery profiles of 4 commonly used operative treatments for localized prostate cancer.

Materials and Methods: Beginning in February 2000 all patients treated with open radical prostatectomy, robot assisted laparoscopic prostatectomy, brachytherapy or cryotherapy were asked to complete the UCLA-PCI questionnaire before treatment, and at 3, 6, 12, 18, 24, 30 and 36 months after treatment. Outcomes were compared across treatment types with statistical analysis using univariate and multivariate models.

Results: A total of 785 patients treated between February 2000 and December 2008 were included in the analysis with a mean followup of 24 months. All health related quality of life domains were adversely affected by all treatments and recovery profiles varied significantly by treatment type. Overall urinary function and bother outcomes scored significantly higher after brachytherapy and cryotherapy compared to open radical prostatectomy and robotic assisted laparoscopic radical prostatectomy. Brachytherapy and cryotherapy had a 3-fold higher rate of return to baseline urinary function compared to open radical prostatectomy and robotic assisted laparoscopic radical prostatectomy. Sexual function and bother scores were highest after brachytherapy, with a 5-fold higher rate of return to baseline function compared to cryotherapy, open radical prostatectomy and robotic assisted laparoscopic radical prostatectomy. All 4 treatments were associated with relatively transient and less pronounced impact on bowel function and bother.

Conclusions: In a study of sequential health related quality of life assessments brachytherapy and cryotherapy were associated with higher urinary function and bother scores compared to open radical prostatectomy and da Vinci prostatectomy. Brachytherapy was associated with higher sexual function and bother scores compared to open radical prostatectomy, robotic assisted laparoscopic radical prostatectomy and cryotherapy.

Editorial Comment

The authors compared 4 commonly used operative treatments for localized prostate cancer: open radical prostatectomy (ORP), robot assisted laparoscopic prostatectomy (RALP), brachytherapy (BT) or cryotherapy.

A total of 785 patients were included in the analysis with a mean follow-up of 24 months.

BT and cryotherapy were associated with a 3-fold higher rate of return to baseline urinary function compared to ORP and RALP. Moreover, all treatments had a more adverse impact on sexual function and bother than on urinary and bowel domains.

Although the advent of RALP has improved visualization and surgeons' ergonomics it has not demonstrated a significant improvement of urinary continence or sexual function in this prospective, longitudinal study of health-related quality of life outcomes using validated self-reported questionnaires.

The authors have shown the 8 years clinical follow-up analyzing different treatment modalities for localized prostate cancer. I believe this assessment should be followed by health care providers managing patients with prostate cancer so we can better serve our patients.

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IMAGING

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Positive predictive value of CT urography in the evaluation of upper tract urothelial cancer

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Objective: The purpose of this study was to determine the positive predictive value of CT urography in the diagnosis of upper tract urothelial malignancies.
Materials and Methods: Retrospective review of the records of patients who underwent 2,602 CT urographic examinations revealed that 81 (3%) examinations of 77 patients had findings suggesting upper tract urothelial cancer. Two radiologists in consensus categorized the findings as large masses (> 5 mm), small masses (≤ 5 mm), or urothelial thickening. The positive predictive value of CT urography was determined with the findings at pathologic examination (n = 42), followup imaging (n = 29), or clinical follow-up alone (n = 5). One patient with insufficient follow-up information was excluded. The effects of age, sex, indication for examination, imaging appearance, and urine cytology were analyzed with the Fisher's exact test or Student's t test. Multivariate logistic regression analysis was used to generate a model for predicting the probability of the presence of upper tract urothelial cancer in patients with positive CT urographic examinations.
Results: The positive predictive value of CT urography for upper tract urothelial cancer was 53% (40/76) overall, 83% (29/35) for large masses, 0% (0/17) for small masses, and 46% (11/24) for urothelial thickening. Imaging appearance, urine cytology, and age were significant univariate predictors ($p < 0.05$) of the presence of upper tract urothelial cancer in patients with positive CT urographic examinations. The independent variables most likely associated with upper tract urothelial cancer were urine cytology (odds ratio, 60.0; 95% CI, 5.5-653.7) and imaging appearance (odds ratio, 24.4; 95% CI, 3.0-201.9) after adjusting for age and clinical indication.
Conclusion: The positive predictive value of CT urography for upper tract urothelial cancer is moderate because benign findings mimic cancer. Positive findings on a CT urogram are more likely to indicate cancer in the setting of large masses or positive urine cytology.

Editorial Comment

Several studies have been shown that multidetector computerized tomography urography (CT urography) is more sensitive, specific and accurate than excretory urography in the diagnosis of upper urinary tract