Original Study

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Global Quality of Life After Curative Treatment for Prostate Cancer: What Matters? A Study Among Members of the Norwegian Prostate Cancer Patient Association

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Abstract

After curative treatment of prostate cancer, health-related quality of life is not only affected by sexual, urinary, and bowel adverse effects, but also and particularly in elderly patients by the mens' perception of changed psychosocial life. Further, for sexual life impairment there is a discrepancy between dysfunction and the mens' perception of related bother.

Introduction: The purpose of this study was to identify factors that are associated with quality of life (QoL) in relapse-free patients after radical prostatectomy or high-dose radiotherapy with or without hormone treatment. **Patients and Methods:** A cross-sectional postal survey among members of the Norwegian Prostate Cancer Patient Association was used. We analyzed associations between QoL and general health, "typical" adverse effects (sexual, urinary, and bowel assessed using the Expanded Prostate Cancer Composite items) and psychosocial variables (work ability, family life, social life and/or leisure activities) in univariate and multivariate regression analyses. Statistical significance was defined as $P < .01$. **Results:** Among 612 responders (approximately 50% compliance; median age, 70 years), in univariate analyses QoL was significantly associated with functional aspects and the level of bother within the sexual, urinary, and bowel domains and with general health and psychosocial aspects of daily life. In the multivariate analysis only general health and social life and/or leisure activities remained associated with QoL, with work ability being a third factor in patients younger than 65 years old. Posttreatment worsening of partnership was reported by 12% of the patients. **Conclusion:** Prostate cancer patients who are to undergo curative treatment should be informed about the risk of reduced function within the sexual, urinary, and bowel domains, but also about these dysfunctions' relation to bother and QoL, considered together with the patients' general health and their preferences as to their social life activities.

Clinical Genitourinary Cancer, Vol. 13, No. 6, 518-24 © 2015 Elsevier Inc. All rights reserved.
Keywords: Adverse effects, EPIC-26, Prostate Cancer, Psychosocial life, Quality of Life, Self-report

Introduction

During the past 2 decades, there have been multiple studies on health-related quality of life (QoL) in survivors after curative therapy for prostate cancer (PCa) using validated self-report instruments.[1-10] These reports have documented the negative effect of dysfunction within the sexual, urinary, and bowel domains

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Submitted: May 28, 2015; Revised: Jul 17, 2015; Accepted: Jul 18, 2015; Epub: July 28, 2015

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("typical" adverse effects [AEs]) after radical prostatectomy (RP) or high-dose radiotherapy (RAD) with or without androgen deprivation therapy. Functional deficiencies have rarely been separated from the patient's experience of problems (bother). Further, no study has so far addressed global QoL in PCa patients if the typical AEs are analyzed together with patients' general health and their psychosocial environment such as family life, leisure activities, or work ability. In this context, global QoL describes an individual's overall wellbeing influenced by the balance between his experience of demographic, physical, and psychosocial conditions.

To gain more insight in global QoL of PCa patients the Norwegian Prostate Cancer Patient Association (PROFO) in 2013 and 2014 conducted a cross-sectional survey among its membership. On the basis of this survey our primary aim was to explore the effect of typical AEs on global QoL, if analyzed together with other medical

and psychosocial health conditions as reported by PCa patients who considered themselves tumor-free after curatively intended treatment. Perception of the quality of their partnership was explored as a secondary aim. Our main hypothesis was that patients' global QoL would be significantly influenced by the level of sexual, urinary, and bowel AEs in univariate analyses, but the effect of AEs would be weakened when analyzed together with general health, patients' work ability, their participation in social life and leisure activities, and the perceived quality of their family life.

Patients and Methods

Study Design

A questionnaire (described in the next section) was mailed to approximately 2700 members of PROFO in May 2013. The first 64 questions were to be answered by the patients and their partners were to respond to 9 subsequent items. The completed questionnaire was to be anonymously returned in a prestamped envelope. To increase the initial response rate of 36%, an electronic version of the first part of the questionnaire was sent to the PROFO members with known e-mail addresses in April 2014. Those who had not completed the mailed version were asked to respond using the Internet. For the present analysis, patients were eligible if their initial treatment was described as robotic or open RP or pelvic RAD with or without hormone manipulation, and who stated that they ever had relapse of disease. Thus these patients were considered tumor-free at the time of the survey. The questionnaire did not ask for duration or type of adjuvant hormone therapy, but androgen deprivation therapy for 1 to 3 years was most often used. Eligible PCa patients should have responded to the question about global QoL.

The Questionnaire

The questionnaire contained 6 demographic multiple choice items, addressed the time of diagnosis with 20 subsequent items (waiting times during the diagnostic period, level of prostate-specific antigen, physician–patient communication, satisfaction with diagnostics). These latter responses were not considered in the present study. The remaining questions addressed posttreatment outcomes (typical AEs, global QoL, work ability, family life, leisure activities, satisfaction with treatment decisions and follow-up, partner relationship, psychological support by family, friends, or patients' organizations). Finally, patients were given the opportunity to provide comments in a free-text field. The partners' questionnaire assessed the subjects age and education and the level of problems they experienced with their partner's PCa. Partners could also specify their problems in a free-text field.

The completed questionnaire provided information about patients' demographic characteristics and main medical features, and AEs and QoL. Whenever possible, the items were extracted from validated questionnaires. The items about sexual, urinary, and bowel late effects were thus identical to the Expanded Prostate Cancer Composite (EPIC-26) with separate items used to assess function and overall problems (bother).[11] Erectile dysfunction was defined as the inability to have intercourse, independent of use of erectile aids. The daily use of at least 1 urinary pad identified patients with urinary incontinence. Overall problems (bother) with sexual, urinary, and bowel function were described according to the relevant responses to each of 3 Likert scales of EPIC-26

dichotomized as "no" (no, very small, or small problem) versus "yes" (rather large, or large problem).

Global QoL was assessed using a single question using a visual analogue scale (VAS) ranging from 0 (worst) to 10 (best). For reasons of comparison with published results this scale could be transformed to a 0 to 100 scale following the guidelines for the European Organization for Research and Treatment of Cancer quality of life questionnaire-C30 instrument.[12] For the graphical depiction the QoL scale was ad hoc trichotomized (good: 8-10; reduced: 5-7; poor: 0-4). The patient's perception of his general health was dichotomized (0: excellent/good ["good"] vs. 1: not so good/poor ["poor"]). The patients described any reduction of their work ability, their social and leisure activities, and their family life ("no": score of 0-5 vs. "yes": score of 6-10) based on a VAS ranging from 0 to 10. Finally, the PCa survivors scored their posttreatment partnership as "better," "unchanged," or "worse" compared with before their diagnosis of PCa.

The partners responded to a Likert scale that was used to assess perceived posttreatment problems in the partnership (no, very small, or small problems ["no"] vs. considerable or large problems ["yes"]). In a free text field the partner could further specify the problems.

Statistics

Using the PC-based package of PASW, version 21 (SPSS Inc, Chicago, IL) descriptive statistics established median, ranges, and proportions. Differences were assessed with the Mann–Whitney U test or the χ^2 test. The observation time ranged from the month of diagnosis to the month of questionnaire completion. In the univariate and multivariate linear regression analyses the original VAS of QoL was handled as a continuous variable. The 3 VAS used to assess work ability, social life and leisure activities, and family life also represented continuous variables in the regression analyses. Variables with statistically significant associations in the univariate analyses were included in the multivariate analysis. The statistical significance was defined by a P value of $< .01$.

Ethics

This anonymous study did not require the consent of the Regional Ethical Committee for Health and Medical Research of Norway.

Results

Patients and Their Partners

The completed questionnaire was returned by 1344 patients (response rate, 50%). The Internet version of the questionnaire was completed by 35% of 308 patients who participated in the work force compared with 21% of 300 men with no work participation ($P < .01$). No other significant differences emerged in comparisons of patients who returned the electronic versus the paper version regarding age, education, or type of treatment (RP or RAD).

Of 594 RP patients, 362 men were eligible for the present study as were 250 of 364 men after pelvic RAD, 212 of the latter ones having received (neo-) adjuvant hormone treatment (Table 1). The median observation time since diagnosis was 4.0 years (range, 0-23 years), and 56% of the patients had been diagnosed after 2008. At the time of the survey, the RAD group of men were approximately 6 years older than the RP men, and they more often reported poor health. Ninety-one