

Orchiectomy and Radiotherapy for Stage I–II Testicular Seminoma: A Prospective Evaluation of Short-Term Effects on Body Image and Sexual Function

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ABSTRACT

Introduction. Orchiectomy followed by infradiaphragmatic radiotherapy is a common treatment for stage I–II testicular seminoma. Long-term effects of orchiectomy and radiotherapy for testicular seminomas on body image and sexual function have been reported; however, few data are available on short-term effects. Patients are usually of reproductive age and sexually active; therefore, short-term effects on body image and sexual function should also be studied.

Aims. To prospectively evaluate short-term effects of orchiectomy and radiotherapy on body image and sexual function in testicular seminoma patients.

Methods. Questionnaires on body image and sexual function were prospectively distributed to all testicular seminoma patients treated between 1999 and 2013. The questionnaire distributed prior to radiotherapy was returned by 161 patients; 133 (82%) returned the second after 3 months, and 120 (75%) completed the questionnaire after 6 months.

Main Outcome Measures. Body image and sexual function as assessed by a Dutch questionnaire on body image and sexuality after radiotherapy and orchiectomy.

Results. Median age was 36 years (range 18–70). After orchiectomy, 48% expressed fertility concerns, and 61% reported their body had changed. Six months after treatment, erectile rigidity was significantly decreased compared with prior to radiotherapy ($P = 0.016$), and 23% reported decreased sexual interest, activity, and pleasure. Changes in body image were significantly associated with decreased sexual interest, pleasure, and erectile function. Even though 45% reported that treatment negatively affected their sexual life, the number of sexually active patients remained stable at 91%. [Correction added on 12 November 2014, after first online publication: ‘prior radiotherapy’ was corrected to ‘prior to radiotherapy’.]

Conclusions. Short-term effects of treatment included fertility concerns and changes in body image. Reported erectile rigidity was significantly decreased after 6 months, as were sexual interest, activity, and pleasure. Disease and treatment had negative effects on sexual life, and changes in body image were associated with sexual dysfunction. Therefore, body image and sexual functioning should be addressed at an early stage in order to offer adequate treatment and counseling. **Wortel RC, Ghidey Alemayehu W, and Incrocci L. Orchiectomy and radiotherapy for stage I–II testicular seminoma: A prospective evaluation of short-term effects on body image and sexual function. J Sex Med 2015;12:210–218.**

Key Words. Sexual (Dys)Function; Body Image; Orchiectomy; Radiotherapy; Seminoma

Introduction

Testicular cancer comprises 1–2% of all male cancers in the Netherlands [1]. However, worldwide, it is the most commonly diagnosed cancer in young males [2]. In 2011, of the 725 new cases of testicular cancer diagnosed in the Netherlands, approximately 60% consisted of testicular seminomas [1]. For over five decades, orchiectomy followed by infradiaphragmatic radiotherapy has been used for stage I–II testicular seminoma.

Sexual dysfunctioning is more common among testicular cancer survivors compared with matched controls, and concerns about body image can arise after treatment [3–6]. All recent papers addressing sexual function in testicular cancer patients focus on long-term effects of treatment; however, prospective data on short-term effects of orchiectomy and radiotherapy on body image and sexual are lacking. Patients are usually of reproductive age and are frequently sexually active; therefore, short-term effects of treatment on body image and sexual function should also be studied.

Aims

The aim of the current study was to prospectively evaluate short-term effects of orchiectomy followed by radiotherapy on body image and sexual function in testicular seminoma patients.

Methods

Between 1999 and 2013, 238 consecutive patients with histologically confirmed testicular seminoma stage I–II were referred to our clinic for prophylactic or adjuvant radiotherapy after orchiectomy. All patients aged 18 years and older were invited to participate in this questionnaire-based study on body image and sexual function.

Radiotherapy

The current standard radiation dose for testicular seminoma in our department is 26 Gray (Gy) in 2 Gy fractions to the para-aortic region for stage I, with an additional 10 Gy boost to enlarged nodes visible on computer tomography (CT) scan for stage II. The protocol for treatment and follow-up has been previously reported [7].

Questionnaire

All main outcomes were based on data collected through three patient questionnaires. Baseline questionnaire A was distributed after orchiectomy

but prior to radiotherapy, questionnaire B and C at 3 and 6 months after radiotherapy, respectively. Until recently, no internationally validated questionnaire was available for the assessment of sexual function in patients treated for testicular seminoma [8]. An adapted and previously published version of a Dutch questionnaire used for evaluation of men with sexual dysfunction was therefore used (Appendix 1) [7]. With the introduction of the European Organisation for Research and Treatment of Cancer quality of life questionnaire on testicular cancer (EORTC QLQ-TC26), we discontinued inclusion of patients in the current study [8].

Statistical Analysis

Statistical analyses were performed using SPSS (version 20, SPSS Inc., Chicago, IL, USA). The Mann–Whitney *U*-test was used to compare graded outcomes and skewed continuous outcomes between groups. Categorical data were compared using the chi-squared test, in case of ordinal data the Kruskal–Wallis test was used. Spearman's correlations were used to assess correlations between graded outcomes. Wilcoxon signed rank test was used to compare outcomes of two related samples; cases with missing data were excluded test by test. An $\alpha = 0.05$ (two sided) was considered the limit of significance.

Main Outcome Measures

Primary endpoints were incidence and severity of short-term effects of orchiectomy and radiotherapy on body image and sexual function. The questionnaires contained sections on effects of orchiectomy and radiotherapy on body image and sexual interest, activity, pleasure, function, and satisfaction. This study procedure was performed in accordance with the local ethical requirements at our institution.

Results

One-hundred sixty-one patients (68% response to initial invitation to 238 consecutive patients) were included and returned baseline questionnaire A. Eleven patients declined (eight due to the personal nature of the questions and three with no specific reason), while 66 did not respond to two written requests.

The median age at treatment was 36 years (range 18–70), and median follow-up time was 55 months (range 3–148). One patient was lost to

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