Dyadic Aspects of Sexual Well-Being in Men with Laser-Treated Penile Carcinoma

Elisabet Skeppner, PhD,* and Kerstin Fugl-Meyer, PhD†

*Department of Urology, Faculty of Medicine and Health, Örebro University Hospital, Örebro, Sweden; †Department of Neurobiology, Care Sciences, and Society, Karolinska Institutet and Department of Social Work, Karolinska University Hospital, Stockholm, Sweden

DOI: 10.1002/sm2.59

A B S T R A C T

Introduction. Coping with cancer, its treatment and recovery are dyadic processes within a relationship. Sexual dysfunctions and problems of penile cancer may add to the demands of coping.

Aim. The prospective study aimed to describe the dyadic aspects of sexual well-being and life satisfaction before and 1 year after organ-sparing laser treatment of penile carcinoma.

Methods. A consecutive series of 29 patients with penile carcinoma suitable for laser treatment were included together with their partners, median age 60 (37–73) years and 57 (30–72) years, respectively. Median length of relationship was 29 years (1–54 years). The participants completed structured interviews before treatment, at 6 months’ and 12 months’ follow-up. The interview addressed sexual activities, sexual functions, verbal (sexual) communication, and life satisfaction.

Main Outcome Measures. Three well-validated instruments were included: Hospital Anxiety and Depression Scale, International Index of Erectile Function-5, and Life Satisfaction checklist, LiSat-11. The interviews contained the same questions for patients and partners at all three measuring points.

Results. There was a high level of within-couple agreement on sexual activities, sexual function, and life satisfaction before and after organ-sparing treatment. No significant differences between interview data at 6 and 12 months’ follow-up occurred. Before treatment, sexual dysfunctions were common among men, especially decreased sexual interest and dyspareunia. At follow-up, increased sexual function was found, with the exception of erectile function and women’s orgasm. A rather high proportion was being unsatisfactory sexually inactive. Few had an ongoing verbal (sexual) mutual communication. Couples with an active sexual life at follow-up showed coherence in high satisfaction with life as a whole.

Conclusion. A high level of within-couple agreement concerning sexuality and life satisfaction points to the necessity of including an adequate sexological case history, counseling, and treatment for this group of patients and their partners. Skeppner E and Fugl-Meyer K. Dyadic aspects of sexual well-being in men with laser-treated penile carcinoma. Sex Med 2015;3:67–75.

Key Words. Penile Carcinoma; Laser Treatment; Prospective; Organ-Sparing; Sexual Function; Sexual Dysfunction; Sexual Satisfaction; Life Satisfaction

Introduction

Penile carcinoma is a relatively rare disease in the Western population with variations within several European regions, ranging from 0.5 to 1.6 per 100,000 males; the incidence is slightly increasing. In the non-Western world, the incidence is much higher and can reach as much as...
10% of all malignant diseases in men [1]. Penile carcinoma mostly affects the elderly population [2].

Long patients’ delay in seeking treatment, as well as varied treatment options with impact on sexual life, is common [3]. However, research focusing this group of patients is quite rare, probably due to small, heterogeneous samples and a mixture of treatment opportunities making comparisons difficult.

Worldwide, only a few studies have focused on the psychological and social impact of penile cancer and its different treatment modalities. The psychosocial impact of penile cancer and, not the least, the symbolic nature of genital cancer, with vulnerability in terms of the man’s sense of masculinity, may lead to sexual dysfunctions, adding to the demands of coping. In a small qualitative study among men with penile cancer treated with partial or total penile amputation, the impact on quality of life and sexuality was studied by Bullen et al. [4]. The authors found that penile amputation alters the sense of masculinity, but psycho-sexual adaptation was feasible for men in strong and supportive relationships. Evidence for maintaining overall sexual well-being with organ-sparing treatment in contrast to partial penile amputation has, though, been found [5–11].

We have previously found that men, treated with combined laser treatment, to a large extent resumed their sexual activities after treatment, despite distressing decreased erectile function and low sexual interest in a fifth of the patients [12]. However, in that retrospective study, there was a lack of a dynamic partner perspective. If the treatment causes sexual dysfunctions, it will, most likely, affect the partner. Furthermore, partners’ sexual dysfunctions can affect the patients’ sexuality [13].

The aim of this prospective study was to describe dyadic aspects of sexual well-being and life satisfaction before and 1 year after organ-sparing laser treatment of penile carcinoma. The hypothesis was that couples with congruent experiences of sexual activities and sexual functions who were active in communication about sexuality are able to cope satisfactorily with partner relationship, sexual life, and life as a whole.

The study is one in a series of reports on men who have had organ-sparing laser treatment for penile carcinoma. We have previously described their demographic data, symptoms, treatment-seeking behavior, comorbidities, sexual functions/dysfunctions, sexual activities, and satisfaction. The age span ranged from 37 years up to 90 years, and the partners were not included [3,12,14].

Methods

In the present prospective observational study addressing sexuality, and life satisfaction, couples were approached at three measuring points: immediately prior to treatment for penile carcinoma, and after 6 and 12 months. The definition of partner was characterized as having a stable partner relationship (hetero or homosexual) but not necessarily cohabiting.

The researchers used face-to-face semi-structured interviews. One and the same interviewer (E.S., an experienced medical social worker not involved in the patients’ clinical care) presented the items orally. The interview lean on an meticulous sexological case history (including 50 questions). Sexual dysfunctions (see Table 2) were defined as follows: low desire/decreased sexual interest (men and women), absent or diminished feelings of sexual desire or interest, respectively, with absent feelings of sexual thoughts or fantasies; erectile dysfunction, consistent or recurrent inability to attain and/or maintain penile erection sufficient for sexual activity; premature ejaculation, ejaculation occurring sooner than desired (within 2 minutes; before or shortly after penetration over which the man has minimal or no control); retarded/anejaculation, undue delay or absence of ejaculation during sexual activity; dyspareunia (men and women), persistent or recurrent genital pain during sexual activity; female lubrication dysfunction, absence of or marked diminished feelings of sexual arousal and/or complains of absent or impaired genital sexual arousal; and orgasmic dysfunction (women), lack of orgasm or marked delay of orgasm from any kind of sexual stimulation (all these concerning manifest sexual dysfunctions, i.e., occurring always, nearly always, rather often). This was followed by three validated self-reporting questionnaires (see below) completed by the participants. The sessions were individual for patients and their partners. Each interview took approximately 1 hour.

Main Outcome Measures

The structured interviews had almost identical questions for patients and partners, at all three measuring points. The questions covered demographic data, comorbidity, sexual function/
dysfunction, sexual activities, and occurrence of verbal communication about sexuality and life satisfaction. Moreover, three self-reporting, well-validated instruments were included. Concerning life satisfaction (LiSat-11), an ad hoc comparator population of 935 men and 809 women, aged 34 to 74 years, were extracted from a nationally representative study of sexual life and life satisfaction in Sweden [15].

**Self-Report Instruments**

**LiSat-11**

LiSat-11 is a generic instrument with 11 statements encompassing perceived actual satisfaction with life as a whole as well as satisfaction with 10 specific domains of life. Along a six-graded scale, possible answers range from very dissatisfied to very satisfied. Responses can validly be dichotomized into satisfied (very satisfied and satisfied) or not satisfied (rather satisfied, rather dissatisfied, dissatisfied, and very dissatisfied) [13]. Construct analysis has shown that each domain is incorporated in one of four factors: health, closeness, leisure, and provision.

**Anxiety and Depression: The Hospital Anxiety and Depression Scale (HADS)**

The well-validated Hospital Anxiety and Depression Scale (HADS) consists of 14 questions [16]. Seven items measure occurrence of anxiety, and seven measure depression. Each item has a four-graded scale for answers with scores (0–3) constructed for aggregation of each of the two subscales. Cutoff scores for anxiety and depression, respectively, have been identified as ≥11 [17].

**Erectile Function: The International Index of Erectile Function (IIEF-5)**

For assessing erectile function, the universally used IIEF-5 was included [18]. The aggregated score ranges from 1 to 25; the cutoff score of ≥21 signifies the border between normal and subnormal erectile function.

**Statistics**

The data were analyzed with the use of SPSS version 17 (SPSS Inc, Chicago, IL, USA). Numbers of subjects are generally given in the results owing to the small sample size.

We assessed the level of agreement between the partners’ reports of sexual activities, dysfunction, and satisfaction using Cohen’s kappa for categorical variables, determining whether the level of agreement was significantly higher than the level expected to occur by chance (where values >0.60 represented substantial to strong agreement).

The nonparametric sign test was used to test differences in medians in the distribution over time comparing satisfaction with sexual life at baseline and after 12 months. The chosen level of significance was \( \alpha \) of 0.05.

**Ethics**

The study was approved by the Regional Ethics Review Board, Uppsala Sweden (2005:112). Informed consent was approved/given by patients and their partners.

**Results**

As no significant differences were found between the interview data at 6 and 12 months, results are given at baseline and at 12 months of follow-up.

**Study Participants**

Included were all patients younger than 75 years who were referred to Department of Urology, University Hospital Örebro, Sweden, with penile carcinoma suitable for laser treatment and not previously treated with combined laser. During the period May 2005 to April 2009, 67 patients fulfilled the criteria and were invited to participate in the prospective study. Eight men declined participation. Furthermore, nine participated in the baseline interview but were later judged to have tumor stages too advanced to be suitable for organ-sparing therapy. Of the remaining 50 patients, 41 (82%) had a stable relationship. One couple lived in a homosexual relationship.

Thirty-four partners of these 41 eligible patients agreed to participate and were interviewed at baseline; 31 were interviewed at 6 months’ follow-up and 29 at 12 months’ follow-up. Thus, the response rate was 83% at baseline. Three partners declined to participate without explanation at the 6-month follow-up, and at 12 months, a further two were lost due to separation and death, leaving 29 couples fulfilling all three interviews. The response rate was 71% at the 12-month follow-up.

Patients with partners unwilling to participate in the study were found to be significantly older but did not differ concerning tumor stage, sexual function, or sexual activities. Partners who were initially included but dropped out at the second or third interview did not differ (significantly) in any of the investigated variables.
Sociodemographics
Patients’ median age was 60 years (range 37–73), and partners' 57 years (range 30–72). Eight couples were retired, and all others were vocationally active. The median duration of the relationships was 29 years (range 1–54 years).

Health
The majority (n = 12) had tumor stage pT1, and 14 had tumor grade G2. Two patients had a total penectomy between 6 and 12 months after first treatment.

There was a high level of comorbidity at baseline, with 16/29 (55%) of the patients reporting concomitant and diagnosed illnesses, along with 13/29 (45%) of the partners (Table 1). According to the HADS [16], none were depressed at any of the three measuring points. Anxiety was, on the other hand, present among five partners at baseline but not at follow-up, while two patients were found with anxiety 12 months after treatment.

Couples at Diagnosis and 1 Year after Laser Treatment
Eight couples had not been sexually active, with penetrative intercourse, for several years before the laser treatment; the reasons given were symptoms of penile carcinoma, concomitant illness (see Table 1), and own or partner’s decreased sexual interest. Nor had these couples resumed sexual activities at 12 months’ follow-up. For the 21 sexually active couples, activities showed minor and statistically nonsignificant changes from baseline to follow-up 1 year later.

At the 12-month follow-up, four couples had ceased having penetrative intercourse but were sexually active in other ways. These couples reported that this withdrawal was caused by the penile carcinoma and/or its treatment. The four patients were found with tumor stages T1–T2. Two of these men had had total penectomy due to relapse (tumors staged pT2, G2, and G3 respectively). Notably, both had been able to resume penetrative intercourse during the first months after laser treatment and up until the time of relapse. The couples showed high within-couple agreement (interpartner reliability) with respect to having penetrative intercourse (Table 2). Time since last sexual activity was estimated by most of the couples to be within the last month (11/21 pretreatment and 16/19 post-treatment).

Sexual Function and Dysfunction
Of the 21 sexually active, with penetrative intercourse, the most common sexual dysfunction among patients was manifest dyspareunia (see Table 1). As many as 10 out of this 21 suffered from genital sexual pain. However, at 12 months’ follow-up, this dysfunction remained for two men. Furthermore, at 12 months, almost half of the patients (15/29) experienced decreased sensibility of the glans penis; all but two reported these somatic sensations as negative.

Concerning other sexual dysfunctions, only manifest decreased sexual interest occurred more frequently (13/29 before and 10/29 after treatment) than dyspareunia. Sexual desire dysfunction had a much lower prevalence, as did manifest premature ejaculation. Manifest retarded ejaculation/anejaculation occurred for six of the 21 before and four after treatment. For the sexually active, manifest erectile dysfunction occurred in two patients prior to treatment and in three at follow-up.

The IIEF score was registered as “normal” with a score ≥22 in 14 patients before and in 10 patients at 1 year after treatment. Before being diagnosed with penile carcinoma, two men had received PDE5 inhibitors, and at follow-up, a further four patients used this pharmacological treatment with success. The prevalence of sexual dysfunction had

Table 1  Diagnosed comorbidity, including anxiety and depression (HADS), in 29 patients treated for penile carcinoma and their partners

| Diagnosed comorbidity | Patients at baseline | Patients at 12 months | Partners at baseline | Partners at 12 months |
|-----------------------|---------------------|-----------------------|----------------------|-----------------------|
| Hypertension          | 10                  | 11                    | 6                    | 8                     |
| Diabetes mellitus     | 4                   | 4                     | 0                    | 0                     |
| Cardiovascular disease| 8                   | 8                     | 0                    | 0                     |
| Chronic pain          | 3                   | 3                     | 5                    | 5                     |
| Anxiety (HADS)        | 0                   | 2                     | 5                    | 0                     |
| Depression (HADS)     | 0                   | 0                     | 0                    | 0                     |

*More than one diagnosis could be specified by individuals
†One partner declined self-assessment at baseline

Sex Med 2015;3:67–75 © 2015 The Authors. Sexual Medicine published by Wiley Periodicals, Inc. on behalf of International Society for Sexual Medicine.
decreased for all male dysfunctions, except for erectile dysfunction, at the 12-month follow-up. Among the partners, the most common sexual dysfunction was low sexual desire (eight partners at baseline and nine a year later), followed by decreased vaginal lubrication (five and two women, respectively). Orgasmic dysfunction was reported by one woman at baseline and a further three at follow-up. No partner reported dyspareunia or vaginismus.

There was a within-couple–agreement concerning erectile dysfunction, retarded ejaculation (at baseline) and decreased vaginal lubrication (Table 2).

At the time prior to treatment, 12/29 (41%) of the couples reported an active ongoing verbal communication about (their) sexuality; 1 year later, one couple had ceased such communication. Seven patients and five partners had raised questions on sexual issues with the health care personnel.

Life Satisfaction
At baseline, and after 12 months, similar proportions of patients and partners were satisfied/very satisfied with life as a whole, at par with (or more than) the comparators (Table 3). Two items, satisfaction with somatic health and with sexual life, decreased for all male dysfunctions, except for erectile dysfunction, at the 12-month follow-up.

Among the partners, the most common sexual dysfunction was low sexual desire (eight partners at baseline and nine a year later), followed by decreased vaginal lubrication (five and two women, respectively). Orgasmic dysfunction was reported by one woman at baseline and a further three at follow-up. No partner reported dyspareunia or vaginismus.

There was a within-couple–agreement concerning erectile dysfunction, retarded ejaculation (at baseline) and decreased vaginal lubrication (Table 2).

Table 2 Prevalence of sexual activity, sexual dysfunctions, and satisfaction in patients treated for penile carcinoma and their partners, at baseline and at 12-month follow-up

| Sexual activity | Baseline | 12 months |
|-----------------|----------|-----------|
|                 | Patients | Partners  | Patients | Partners  |
| Penetrative intercourse | 21/29 | 21/29 | 29/29* (100) | 17/29 | 17/29 | 29/29* (100) |
| Sexual dysfunction, manifest | | | |
| Low desire (m/p) | 3/29 | 8/29 | 20/29 (69) | 2/29 | 9/29 | 20/29 (69) |
| Decreased interest (m/p) | 13/29 | 10/29 | 21/29 (72) | 10/29 | 9/29 | 18/29 (62) |
| Erectile dysfunction (m) | 2/21 | 2/21 | 21/21* (100) | 3/17 | 2/17 | 16/17* (94) |
| Premature ejaculation (m) | 1/21 | 1/21 | 19/21 (90) | 0 | 0 | 17/17 (100) |
| Retarded/anejaculation (m) | 6/21 | 5/21 | 20/21* (95) | 4/17 | 5/17 | 12/17 (71) |
| Dyspareunia (m/p) | 10/21 | 0 | 2/17 | 0 |
| Female lubrication dysfunction (w) | 2/21 | 5/21 | 16/21 (76) | 2/17 | 2/17 | 17/17* (100) |
| Female orgasmic dysfunction (w) | 3/21 | 1/21 | 17/21 (81) | 1/17 | 4/17 | 14/17 (82) |
| Satisfaction | | | |
| Sexual satisfaction | 17/28 | 13/27 | 20/26 (77) | 9/28 | 12/24 | 17/24 (71) |
| Partner satisfaction | 24/29 | 25/28 | 23/28 (82) | 23/29 | 24/29 | 24/29 (83) |
| Life satisfaction | 23/29 | 24/28 | 20/28 (71) | 22/29 | 24/29 | 19/29 (66) |

Within-couple agreement in answers is given *Kappa value >0.60
m = men; p = partner; w = women

Table 3 Satisfaction with life as a whole and10 domains of life in patients and their partners, before the treatment and 1 year after

| Satisfied with | Patients at baseline (%) | Patients after 12 months (%) | Partners at baseline (%) | Partners after 12 months (%) | Swedish men 34–74 years n: 935 (%) | Swedish women 34–74 years n: 809 (%) |
|----------------|-------------------------|-----------------------------|--------------------------|-----------------------------|-----------------------------------|-----------------------------------|
| Life as a whole | 23/29 (79) | 22/29 (76) | 24/28 (86) | 24/29 (83) | 72 | 70 |
| Closeness | | | | | | |
| Sexual life | 17/28 (61) | 9/28 (32)* | 13/27 (48) | 12/24 (50) | 57 | 53 |
| Partner relation | 24/29 (83) | 23/29 (79) | 25/28 (89) | 24/29 (83) | 82 | 80 |
| Family life | 25/29 (93) | 25/29 (96) | 27/28 (96) | 26/28 (93) | 84 | 84 |
| Health | | | | | | |
| Somatic | 15/29 (52) | 14/29 (48) | 18/28 (64) | 22/29 (76) | 75 | 74 |
| Psychological | 22/29 (76) | 23/29 (79) | 21/28 (75) | 26/29 (90) | 83 | 78 |
| (P)ADL | 25/29 (86) | 26/29 (90) | 26/29 (93) | 28/29 (97) | 92 | 96 |
| Leisure | | | | | | |
| Leisure | 19/29 (66) | 23/29 (79) | 19/28 (68) | 18/29 (62) | 62 | 59 |
| Contacts | 22/29 (76) | 23/29 (79) | 22/28 (79) | 25/29 (86) | 64 | 70 |
| Provision | | | | | | |
| Vocation | 19/27 (70) | 20/29 (69) | 15/26 (58) | 19/26 (73) | 61 | 58 |
| Economy | 20/29 (69) | 21/29 (72) | 18/28 (64) | 22/29 (76) | 50 | 48 |

* P = 0.039

© 2015 The Authors. Sexual Medicine published by Wiley Periodicals, Inc. Sex Med 2015;3:67–75 on behalf of International Society for Sexual Medicine.
differed markedly from the comparators. Considerably fewer patients were satisfied with their somatic health. However, only satisfaction with sexual life at 12 months’ follow-up showed significant differences between patients and comparators, the former being significantly less satisfied ($P = 0.039$) (Table 3).

Couples with an active, partner-related sexual life at follow-up reported coherence in high satisfaction with life as a whole. Differences in satisfaction with sexual life were found only in sexually active couples where the patient reported a higher satisfaction level than the partner prior to treatment, but lower a year later. The sexually inactive couples showed coherence in being unsatisfied with their sexual life at baseline and after 12 months, with the exception of one couple.

**Discussion**

The major finding of this prospective investigation was the high degree of coherence between patient and partner experiences of sexuality as well as life satisfaction before and after treatment of penile carcinoma. Both patients and partners were satisfied with life as whole at par with the general population. This was true also for the domains partner relationship, family life, leisure, social contacts, psychological health, personal ADL, vocations, and economy. Not surprisingly, patients’ somatic health was found to be lower than that of the Swedish population. Furthermore, a year after treatment, sexual satisfaction was significantly lower among patients. This finding contrasts to our earlier retrospective study of 46 men with the same diagnosis and treatment modalities, which showed levels of satisfaction with sexual life equal to those in the general male population [12]. This difference could possibly be explained by a median time of three years from treatment to assessment in the retrospective study, indicating an adaptation to the sexual situation after several years. In the present prospective investigation, sexually inactive couples were found to have low sexual satisfaction, indicating the importance of acknowledging sexuality in the case history as well as in the clinical care of patients and partners.

We have not been able to locate earlier published data on penile carcinoma and the effect on couples’ sexual well-being, but there are, however, findings in the literature suggesting that having a partner with good sexual function positively affects the sexual outcomes in males treated for prostate cancer [19], and there is reason to believe that this would be the case also for men with penile cancer. Knowledge about how partners’ sexual dysfunctions influence each other suggests the importance of thinking in terms of partner relationship when evaluating sexual outcomes after treatment [20, 21]. This is also supported by epidemiological data showing that men’s sexual dysfunctions are closely coherent with women’s dysfunctions and vice versa [15, 22].

Coping with the diagnosis of cancer, its treatment and its recovery are dyadic processes within a relationship. This dynamic process is affected by both the patient’s and partners overall adjustment to life as a whole and also to different life domains. Generally, the onset of cancer have been found to have a negative impact on both sexuality and sexual relationships, most often seen as total cessation of sexual activities or markedly decreased frequency [23].

A fourth of the couples in the present sample were without a mutual sexual life, and all of them experienced low sexual satisfaction. Malignancy, concomitant diseases, or lack of sexual interest were reasons given for the sexual inactivity. In a population with a median age of around 60 years, concomitant diseases, in patients as well as partners, should be expected and kept in mind as belonging to risk factors for sexual dysfunctions [24]. Occurrence of partners’ diagnosed comorbidity increased between baseline and the 12-month follow-up. This is in agreement with findings from a large Swedish cohort study of partners to persons diagnosed with cancer; during the first year after diagnosis, the partners were found to be vulnerable to ill health [25]. Neither patients nor partners, in our study, were found to be depressed. Anxiety, on the other hand, was reported by 17% of the partners before treatment but none a year later. Here, patients showed a different pattern. One interpretation is that the psychological defense mechanisms differ in time for patient and partner. The HADS has been used in patients with penile carcinoma; in a study of 14 subjects, all with penile amputation, D’Ancona et al. found none to be depressed or experiencing anxiety [26]. However, in another investigation of 17 patients with different treatment regimes, 30% felt anxiety and 6% were depressed [27].

The prevalence of sexual dysfunctions was generally high in the investigated men with penile cancer compared with evidence-based epidemiological data [24]. However, as discussed in a review by Maddineni et al., prevalence studies of men treated for penile carcinoma are rare, with small
samples and without consensus in methods and measurements [28]. Sexual outcomes have though been studied after partial or total penectomy or radiotherapy [6,7,29], and in recent decades, these widened to several organ-preserving modalities and glansectomy with subsequent reconstruction [11,30,31]. In these studies, sexuality is not in focus but described in one or two lines. For example, Romero et al. only included patients that were sexually active and without other serious illness that could interfere with sexual function [7]. In a study of patients receiving brachytherapy, Crook et al. focused on erectile function at baseline and follow-ups, showing that of 27 men who were “potent” before treatment almost all retained their erectile function afterwards [8].

Notably, in the present study, manifest decreased sexual interest occurred more often than expected for the patients, both at baseline (45%) and a year after treatment (34%). Furthermore, a high prevalence of dyspareunia, before treatment (almost 50%), was somewhat surprising. However, genital pain at baseline could be explained by penile lesions, which is supported by the finding of a much lower prevalence after treatment a year later (12%). Decreased penile sensibility is another finding which is clinically important when focusing on sexuality and restoring sexual life and satisfaction. Manifest retarded ejaculation occurred more often in this group of patients than in the general population. One main explanation of this dysfunction, as well as of the increase in female orgasmic dysfunction at follow-up, is psychological rather than physical. Orgasm can be hindered by worries, which are emotions that are present when coping with cancer.

Manifest erectile dysfunction is the most often investigated sexual dysfunction, both in descriptive and analytical epidemiology. In the present study, this dysfunction was not as pronounced as several other dysfunctions, and furthermore, when occurring, it was successfully treated with pharmacological treatment with PDE5 inhibitors. For the female partner, low vaginal lubrication occurred quite often which is expected due to the relatively high age of the participants (i.e., postmenopausal). This dysfunction can also be positively treated with different pharmacological therapies such as lubricants and hormonal therapy, which could explain the decrease in prevalence at follow-up.

When diagnosed with penile carcinoma, not only patients’ and partners’ sexual function but also their experience of sexual satisfaction and the importance of sexuality have to be considered as indicators when deciding appropriate treatment strategies. Sexual well-being among couples dealing with cancer is not only a question of physical function; there is a possibility that the impact of sexual problems negatively affects both the patients’ and his partner’s self-confidence and thereby global life satisfaction [32,33]. Such an impact will be an unnecessary burden during a difficult period in life and is an indication for a broader approach to sexuality. Our findings concerning the couples’ low levels of verbal communication on sexuality also highlight the need for attention and the availability of sexological help and perhaps treatment. This could preferably be done as early as 6 months after diagnosis as we found no significant differences in answers at the two occasions for the interviews.

The benefit of organ-sparing techniques for maintaining sexual function has illuminated the need for studying sexual outcomes in penile carcinoma. In the past decade, glansectomy, in combination with glans reconstruction, has been evaluated as an alternative to partial penectomy, but still with large differences in the use of validated tools and results of sexual outcomes [11,30,31,34]. Nevertheless, when summarizing these findings, and not surprisingly, there is more to gain in sexual well-being for both patients and partners when there is a possibility of penile-preserving treatment. The partner perspective in penile carcinoma has not, as far as we know, been studied. In our earlier retrospective study, we described the partner perspective from point of view of the patients. This approach has also been used by Gulino et al. who found that 6 months after glans reconstruction, patients rated the relationships with partner and family as being as good as before the debut of the disease [11].

The present study has its limitation in the small number of patients and partners; thus, interpretations should be made with caution. However, penile carcinoma is a rare malignancy, and a strength of the study is that the participants belong to a consecutive series of men younger than 75 years and were treated at one and the same university hospital specializing in laser treatment of penile carcinoma. The response rate at baseline and at the 12-month follow-up was high (83% and 71%, respectively). Furthermore, an experienced medical social worker performed all interviews.

Penile carcinoma is a rare malignancy surrounded by deficient knowledge in society and with several treatment options available. Many patients are unaware of the risk for negative side
effects on sexual function and are not able to process these questions before the diagnosis. The importance of involving the partner in the consultation process together with the patient, the physician, and other medical professionals is underlined.

Conclusion

There is a high level of within-couple agreement between patients’ and partners’ experiences of sexual activities, sexual function, and life satisfaction before and 1 year after organ-sparing treatment of penile carcinoma. The couples’ satisfaction with life as a whole is on a par with that of the general population. This is true also for several domains of life. Not surprisingly, they experienced lower satisfaction with health and with sexual life 1 year after treatment. The latter finding can be explained by a rather high proportion being unsatisfactory sexually inactive, and sexual dysfunctions were not uncommon. The sexual verbal communication was low, indicating difficulties in the coping process. Thus, sexological case history, counseling, and/or treatment seems to be important for this group of patients and their spouses.

Corresponding Author: Kerstin Fugl-Meyer, PhD, Department of Neurobiology, Care Sciences, and Society, Karolinska Institutet, Huddinge SE 14183, Sweden. Tel: +46 736251900; E-mail: kerstin.sjogren.fugl-meyer@ki.se

Conflict of Interest: The author(s) report no conflicts of interest.

References

1 Pizzocaro G, Albaf, Horenblas S, Solsena E, Tana S, Van Der Poel H, Watkin NA. EAU penile cancer guidelines 2009. Eur Urol 2010;57:1002–12.
2 Persson B, Sjodin JG, Holmberg L, Windahl T, Sweden FT. The national penile cancer register in Sweden 2000–2003. Scand J Urol Nephrol 2007;41:278–82.
3 Skeppner E, Andersson S-O, Johansson J-E, Windahl T. Initial symptoms and delay in patients with penile carcinoma. Scand J Urol Nephrol 2012;46:319–25. doi: 10.3109/00365599.2012.677473.
4 Bullen K, Edwards S, Marke V, Matthews S. Looking past the obvious: Experiences of altered masculinity in penile cancer. Psychooncology 2010;19:933–40.
5 Korets R, Koppie TM, Snyder ME, Russo P. Partial penectomy for patients with squamous cell carcinoma of the penis: The Memorial Sloan-Kettering experience. Ann Surg Oncol 2007;14:3614–9.
6 Opjordsmoen S, Wæhre H, Aass N, Fossa SD. Sexuality in patients treated for penile cancer: Patients’ experience and doctors’ judgement. Br J Urol 1994;73:554–60.
7 Romero FR, Romero KR, Mattos MA, Garcia CR, Fernandes Rde C, Perez MD. Sexual function after partial penectomy for penile cancer. Urology 2005;66:1292–5.
8 Crook JM, Zejzowski J, Grimard L, Esche B, Pond G. Penile brachytherapy: Results for 49 patients. Int J Radiat Oncol Biol Phys 2003;52:460–7.
9 Li J, Zhu Y, Zhang SL, Wang CF, Yao XD, Dai B, Ye DW. Organ-sparing surgery for penile cancer: Complications and outcomes. Urology 2011;78:1121–4.
10 Morelli G, Pagni R, Mariani C, Campo G, Menchini-Fabris F, Minervini R, Minervini A. Glansectomy with split-thickness skin graft for the treatment of penile carcinoma. Int J Impot Res 2009;21:311–4.
11 Gulino G, Sasso F, Falaberra R, Bassi PF. Distal urethral reconstruction of the glans for penile carcinoma: Results of a novel technique at 1-year of followup. J Urol 2007;178:941–4.
12 Skeppner E, Windahl T, Andersson SO, Fugl-Meyer KS. Treatment-seeking, aspects of sexual activity and life satisfaction in men with laser-treated penile carcinoma. Eur Urol 2008;54:631–9.
13 Fugl-Meyer AR, Melin R, Fugl-Meyer KS. Life satisfaction in 18- to 64-year-old Swedes: In relation to gender, age, partner and immigrant status. J Rehabil Med 2002;34:239–46.
14 Windahl T, Skeppner E, Andersson SO, Fugl-Meyer KS. Sexual function and satisfaction in men after laser treatment for penile carcinoma. J Urol 2004;172:648–51.
15 Fugl-Meyer K. Sexual disabilities and sexual problems. In: Lewin B, ed. Sex in Sweden: On the Swedish sexual life. 1996. Stockholm: National Institute of Public Health (Folkhälsoinstitutet); 2000:199–216.
16 Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand 1983;67:361–70.
17 Bjelland I, Dahl AA, Haug TT, Neckelmann D. The validity of the Hospital anxiety and depression scale. An updated literature review. J Psychosom Res 2002;53:69–77.
18 Rosen RC, Cappelleri JC, Smith MD, Lipsky J, Pena BM. Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for erectile dysfunction. Int J Impot Res 1999;11:319–26.
19 Schover LR, Fouladi RT, Warneke CL, Neese L, Klein EA, Zippe C, Kupelian PA. Defining sexual outcomes after treatment for localized prostate carcinoma. Cancer 2002;95:1773–85.
20 Dean J, Rubio-Aurioles E, McCabe M, Eardley I, Speakman M, Buvat J, de Tejada IS, Fisher W. Integrating partners into erectile dysfunction treatment: Improving the sexual experience for the couple. Int J Clin Pract 2008;62:127–33.
21 Hodges LJ, Humphris GM, Macfarlane G. A meta-analytic investigation of the relationship between the psychological distress of cancer patients and their carers. Soc Sci Med 2005;60:1–12.
22 Fugl-Meyer KS. Health, sexual ability and quality of life. In: Lewin B, ed. Sex in Sweden: On the Swedish Sexual Life. 1996. Stockholm: National Institute of Public Health (Folkhälsoinstitutet); 2000:217–14.
23 Hawkins Y, Ussher J, Gilbert E, Perz J, Sandoval M, Sundquist K. Changes in sexuality and intimacy after the diagnosis and treatment of cancer: The experience of partners in a sexual relationship with a person with cancer. Cancer Nurs 2009;32:271–80.
24 Lewis RW, Fugl-Meyer KS, Corona G, Hayes RD, Laumann EO, Moreira ED Jr, Rellini AH, Segraves T. Definitions/epidemiology/risk factors for sexual dysfunction. J Sex Med 2010;7:1598–607.
25 Sjovall K, Attner B, Lithman T, Norren D, Gunnars B, Thome B, Olsson H. Influence on the health of the partner.
affected by tumor disease in the wife or husband based on a population-based register study of cancer in Sweden. J Clin Oncol 2009;27:4781–6.

26 D’Ancona CA, Botega NJ, De Moraes C, Lavoura NS Jr, Santos JK, Rodrigues Neto N Jr. Quality of life after partial penectomy for penile carcinoma. Urology 1997;50:593–6.

27 Ficarra V, Righetti R, D’Amico A, Pilloni S, Balzarro M, Schiavone D, Malossini G, Mobilio G. General state of health and psychological well-being in patients after surgery for urological malignant neoplasms. Urol Int 2000;65:130–4.

28 Maddineni SB, Lau MM, Sangar VK. Identifying the needs of penile cancer sufferers: A systematic review of the quality of life, psychosexual and psychosocial literature in penile cancer. BMC Urol 2009;9:8.

29 Ficarra V, Mofferdin A, D’Amico A, Zanon G, Schiavone D, Malossini G, Mobilio G. [Comparison of the quality of life of patients treated by surgery or radiotherapy in epidermoid cancer of the penis]. Prog Urol 1999;9:715–20.

30 Smith Y, Hadway P, Biedrzycki O, Perry MJ, Corbishley C, Watkin NA. Reconstructive surgery for invasive squamous carcinoma of the glans penis. Eur Urol 2007;52:1179–85.

31 Palminteri E, Berdondini E, Lazzeri M, Mirri F, Barbagli G. Resurfacing and reconstruction of the glans penis. Eur Urol 2007;52:893–8.

32 Althof SE. When an erection alone is not enough: Biopsychosocial obstacles to lovemaking. Int J Impot Res 2002;14(1 suppl):S99–104.

33 Althof SE, Leiblum SR, Chevret-Measson M, Hartmann U, Levine SB, McCabe M, Plaut M, Rodrigues O, Wylie K. Psychological and interpersonal dimensions of sexual function and dysfunction. J Sex Med 2005;2:793–800.

34 O’Kane HF, Pahuja A, Ho KJ, Thwaini A, Nambirajan T, Keane P. Outcome of glansectomy and skin grafting in the management of penile cancer. Adv Urol 2011;2011:Article ID 240824, 4 pages. http://dx.doi.org/10.1155/2011/240824.