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# Sexual Life after Cervical Carcinoma

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## A B S T R A C T

*The aim of this study is to determine the differences in sexual life of women with cervical cancer after surgery and radiation therapy. A total of 210 patients treated for cervical cancer at the Department of Obstetrics and Gynecology, School of Medicine, University of Zagreb, Croatia between March 2001 and March 2003 were asked to fill in the questionnaire. Sexual life had worsened in 42.86% of the surgical patients, as had in 25.00% of irradiated patients ($p<0.01$). The main reason of sex life impairment was fear of pain (55.55% and 42.86%, respectively ($p>0.05$)). More than 80% of patients didn't notice any changes in their partner's behavior. Almost every third woman felt certain change in her »body image«, similar in both groups ($p>0.05$). Need for consultations regarding sex life after diagnosis were recognized by 71.43% of patients. In conclusion we can say that considerable amount of attention should be given to psychological and sexual aspects of recovery of patients, because those aspects can significantly influence patients rehabilitation and prognosis.*

***Key words**: sexual life, cervical cancer, psychological and social aspects, sexual rehabilitation*

## Introduction

It is well known that sexuality in women is based on sexual desire, excitement, orgasm and relaxation. They are accompanied by characteristic physical changes. To accomplish total sexual satisfaction it is necessary to have balance between physical, hormonal, psychological, and emotional factors. This can bee seen in the majority of healthy young women as a part of their sexual life. The disturbance in any of these factors will influence all of them. Treatment of malignant gynecological tumors is often radical surgery or radiotherapy. These procedures interfere with physical factors and normal sexual functioning. As a result of

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that even a diagnosis of the abnormal Pap smear can cause anxiety, especially if it is totally unexpected. In spite of that, psychological and emotional factors are responsible for majority of problems in sexual functioning. It is important to say that sexual function is not on the priority list for many women with gynecological tumors, at the time of diagnosis. It is necessary to allow these patients to express their anxiety and fear.

It is not recommendable to have sexual intercourse for some period of time after surgery. Duration of radiotherapy can expand to several weeks and local reaction on radiation can be very painful. A short period after treatment there is possibility of bleeding. It is necessary to avoid sexual intercourse until a local reaction on radiotherapy disappears or until the wound heals. All chemotherapeutics have unpleasant effects, depending on the type and dose of the drug, but reaction is always individual.

The immune system can be very depressed, and some chemotherapeutics can enter semen or vaginal fluid and cause irritation of partner's genitals. For these problems condoms are recommendable.

Unemployment, loss of fertility, and most importantly loss of partner's understanding represent the aspects of which the patients are frightened the most.

Both physicians and patients have often neglected sexuality after treatment for gynecological cancers. A first detailed studies regarding this issue date from mid-eighties, when Andersen[1–3] begun a series of analyses investigating sexual function after vulvar surgery and pelvic exenteration. The studies that followed those initiatory efforts revealed that there were significant changes in both psychological and sexual functioning in women who underwent gynecological tumor surgery.

Incidence of malignant gynecologic tumors is higher in middle-aged and older women. Malignant tumors of ovary are more common in older women between the ages of 40 and 65 years, approximately two thirds of vulvar cancer occur in women older than 60 years, the peak incidence of cervical cancer is occurring at an increasingly younger age: 40 to 45 years for invasive cancer and about 30 years for high-grade precancers and carcinoma of the endometrium is uncommon in women younger than 40 years[4]. Therefore, it is important to say something about influence of aging on sexuality. A host of biological and psychosocial factors play an important role in age-related changes of female sexuality. The most important of these are the availability of a sexually active partner and presence of concurrent illnesses. It is important to say that the need for love and sexual intimacy does not diminish with age[5]. Therefore sexual history should be part of the clinical evaluation of older patients.

Although sexual activity in general declines with age the proportion of elderly women who retain sexual desire and are sexually active is remarkable. Studies from Duke University, Durham, NC, have found that 47% of married women between 66 and 71 years of age are sexually active, and of those above the age of 78 years, up to 29% are sexually active[6,7]. Sexual interest is maintained in 50% of all women between 66 and 71 years of age, although reported sexual dreams occur in only 19% at 65 years of age compared with 27% at 50 years[8].

The aim of this study is to compare sex life of women with cervical cancer, before and after treatment, to find psychological factors that influence sexuality, and to determine are there differences in sexual life after surgery and radiation therapy.

## Material and Methods

A total of 210 patients treated for cervical cancers or SIL at the Department for Gynecological Oncology of the University Medical School in Zagreb, Croatia between March, 2001 and March, 2003 were

asked to fill in the questionnaire one to ten years after treatment of cervical carcinoma. The questionnaire was especially prepared for this study. To explore the differences in sexual life, we have divided patients into two groups: 1. treated with surgical procedure and 2. treated with irradiation therapy. Statistical difference between distributions of answers to selected questions between irradiated or surgical patients was determined through the use of the Chi-square test. Table 1 presents basic distribution of patients according to age, marital status, level of education, pathohistological diagnosis and type of treatment.

Table 2 reveals their distribution according to age at menarche, age at first sexual intercourse, age at first marriage, number of deliveries and number of abortions. Table 3 presents basic distribution of patients according to favorite parent during childhood and puberty, and attitudes towards menarche and first sexual intercourse.

**TABLE 1**
DISTRIBUTION OF PATIENTS ACCORDING TO AGE, MARITAL STATUS, LEVEL OF EDUCATION, PATOHISTOLOGICAL DIAGNOSIS AND TYPE OF TREATMENT

| | N (%) |
|---|---|
| Age | |
| 30–39 years | 48 (22.86) |
| 40–49 years | 66 (31.43) |
| 50–59 years | 36 (17.14) |
| 60–69 years | 36 (17.14) |
| >70 years | 24 (11.43) |
| Marital status | |
| Never married | 21 (10.00) |
| Married | 129 (61.43) |
| Divorced | 12 (5.71) |
| Widowed | 48 (22.86) |
| Level of education | |
| University degree | 30 (14.29) |
| Completed high school | 105 (50.00) |
| Completed elementary school | 75 (35.71) |
| Pathohistological diagnosis | |
| Squamous intraepithelial neoplasia | 15 (7.14) |
| Carcinoma cervicis uteri | 195 (92.86) |
| Type of treatment | |
| Conization | 15 (7.14) |
| Hysterectomy | 51 (24.29) |
| Hysterectomy, irradiation | 39 (18.57) |
| Hysterectomy, irradiation, chemotherapy | 21 (10.00) |
| Total | 126 (60.00) |
| Irradiation | 51 (24.29) |
| Irradiation, chemotherapy | 33 (15.71) |
| Total | 84 (40.00) |

**TABLE 2**
DISTRIBUTION OF PATIENTS ACCORDING TO AGE AT MENARCHE, AGE AT FIRST SEXUAL INTERCOURSE, AGE AT FIRST MARRIAGE, NUMBER OF DELIVERIES AND NUMBER OF ABORTIONS

| | N (%) |
|---|---|
| Age at menarche | |
| ≤11 years | 30 (14.29) |
| 12–13 years | 75 (35.71) |
| 14–15 years | 84 (40.00) |
| 16+ years | 21 (10.00) |
| Age at first sexual intercourse | |
| <19 years | 117 (55.72) |
| 20–24 years | 75 (35.71) |
| 25+ years | 18 (8.57) |
| Age at (first) marriage | |
| ≤19 years | 69 (36.51) |
| 20–24 | 81 (42.86) |
| 25+ years | 39 (20.63) |
| Number of deliveries | |
| None | 33 (15.72) |
| One | 42 (20.00) |
| Two | 99 (47.14) |
| Three | 15 (7.14) |
| Four and more | 21 (10.00) |
| Number of abortions | |
| None | 114 (54.29) |
| One | 48 (22.86) |
| Two | 30 (14.29) |
| Three | 9 (4.28) |
| Four and more | 9 (4.28) |

**TABLE 3**
DISTRIBUTION OF PATIENTS ACCORDING TO FAVORITE PARENT DURING CHILDHOOD AND PUBERTY, AND ATTITUDES TOWARDS MENARCHE AND FIRST SEXUAL INTERCOURSE

| | N (%) |
|---|---|
| Favorite parent during childhood | |
| Mother | 75 (35.72) |
| Father | 24 (11.43) |
| Both | 57 (27.14) |
| Brothers and sisters | 39 (18.57) |
| No one | 15 (7.14) |
| Favorite parent during puberty | |
| Mother | 75 (35.72) |
| Father | 15 (7.14) |
| Both | 60 (28.57) |
| Brothers and sisters | 42 (20.00) |
| No one | 18 (8.57) |
| Attitude towards menarche | |
| Surprise | 96 (45.71) |
| Happiness | 96 (45.71) |
| Unhappiness | 6 (2.86) |
| No attitude | 12 (5.72) |
| Attitude towards first intercourse | |
| Nice | 34 (16.19) |
| Painful | 74 (35.24) |
| Unpleasant | 16 (7.62) |
| No attitude | 86 (40.95) |

## Results and Discussion

In his study Seibel[9] interviewed 100 women treated for cervical carcinoma more than one year after therapy to establish the effects of radiation or surgical therapy on sexual function. In his study 43% of patients in the irradiation group had statistically significant decreases in sexual enjoyment, ability to attain orgasm, coital opportunity, frequency of intercourse and coital desire. The group who had non-radical surgical procedures (44%) had no significant change in sexual function after treatment. Marked vaginal alterations were recorded in the majority of irradiated patients. The author says that vaginal changes alone could not be held accountable for the significant decrease in sexual function among women who received pelvic irradiation and that the origin of decrease sexual desire after radiation therapy is complex and further investigation is needed. In our study more than one fourth of patients who received irradiation complained on poor lubrication of vagina as a reason of disturbed sexual life.

The aforementioned study was followed by number of studies by the same and other authors in order to obtain firmer conclusions. More attention was brought to a need for counseling and rehabilitation of these patients. Corney[10] suggested that nurse should be counselor for these patients as a part of the gynecological oncology team. The author says that psychological and social factors are more crucial for sexual rehabilitation than physical factors. Our study shows that 71.43% counseling of patients are aware of the need for counseling regarding sex life after diagnosis and treatment of cervical carcinoma. This psychological aspect of treatment should be emphasized to all physicians who treat these women. In his study Flay[11] stated some of physical factors that influenced sexual rehabilitation. The study showed significant changes in sexual activity and satisfaction as a result of treatment. The level of sexual activity was lowest at completion of radiotherapy treatment. A feeling of vaginal shortening was the most frequent reason and was more common in women who were treated with surgery and radiotherapy. Dyspareunia, bleeding, and concern of bleeding and/or recurrence were all significant factors. Women with cervical cancer and undergoing radiotherapy treatment require considerable counseling and support.

Buković[12] investigates changes in sexual life in 83 patients with gynecological tumors. The main changes were noted re-

garding satisfaction with sexual life in general, enjoyment during the intercourse, frequency of the intercourse and orgasm.

In his study Bermark[13] received completed questionnaires from 256 of the women with a history of cervical cancer and 350 of the controls. A total of 68% of women with a history of cancer and 72% of controls reported that they had regular vaginal intercourse. Twenty-six percent of the women who had cancer and 11% of the controls reported insufficient vaginal lubrication for sexual intercourse, 26% of the women who had cancer and 3% of the controls reported a short vagina, and, 23% of the women who had cancer and 4% of the controls reported an insufficiently elastic vagina. The frequency of orgasms and orgasmic pleasure was similar in the two groups. Among the women who had cervical cancer the type of treatment received had a little if any effect on the prevalence of specific vaginal changes.

Graesslin[14] reported sexual changes in women who undergone hysterectomy. After the operation 30.4% of the patients mentioned changes in their sexual life, 32% of low libido rate was noticed, 27.6% had less frequent orgasm, and only 8.8% experienced orgasm more frequently.

We will now discuss our own results. Table 4 presents a comparison of the examinees attitudes regarding sexual life before and after surgery or irradiation of cervical cancer. All surgical patients underwent abdominal hysterectomy, billateral adnexectomy and resection of upper vagina. Radiotherapy was performed with external beam in combination with brachytherapy. It should be mentioned that period referred to as »before treatment« covers the time before the diagnosis of cervical carcinoma was established. Our investigation showed that 88.10% of patients who underwent surgery and 78.58% who were irradiated were satisfied with their sexual life before diagnosis of cervical carcinoma was made ($p<0.05$). Only 2.38% surgical patients and 10.71% irradiated patients did not have intercourse before treatment, because they didn't have sexual partner in period of two years before the diagnosis was established. After the treatment was undertaken, the attitudes have worsened: only one third of patients in both groups (surgery and irradiation) didn't have changes in their sexual life. Sexual life had worsened in 42.86% of the patients who underwent surgery, as had in 25.00% of irradiated patients ($p<0.01$). It is very im- portant to say that 21.43% of patients who underwent surgery didn't have intercourse. The grater percentage was in irradiated group (39.29%).

**TABLE 4**
A COMPARISON OF THE ATTITUDES OF EXAMINEES REGARDING SEXUAL LIFE BEFORE AND AFTER SURGERY OR IRRADIATION OF CERVICAL CARCINOMA

| Attitude towards sexual life before treatment* | | |
|---|---|---|
| | Surgery | Irradiation |
| Satisfied with it | 111 (88.10) | 66 (78.58) |
| Unsatisfied with it | 12 (9.52) | 9 (10.71) |
| Does not have intercourse | 3 (2.38) | 9 (10.71) |
| **Attitude towards sexual life after treatment**** | | |
| | Surgery | Irradiation |
| Same | 39 (30.95) | 30 (35.71) |
| Worse | 54 (42.86) | 21 (25.00) |
| Better | 6 (4.76) | 0 (0.00) |
| Does not have intercourse | 27 (21.43) | 33 (39.29) |
| **Reasons of dysfunction in patients sexual life***** | | |
| | Surgery | Irradiation |
| Fear of pain | 30 (55.55) | 9 (42.86) |
| Painful intercourse | 3 (5.56) | 3 (14.28) |
| Impossible penetration | 3 (5.56) | 0 (0.00) |
| Other | 18 (33.33) | 9 (42.86) |

* $p<0.05$; ** $p<0.01$; *** $p>0.05$

This difference can be explained by the fact that in the irradiated group 75% of patients, who didn't have intercourse, didn't have sexual partner because they were widowed or divorced. These results indicate the existence of serious sexual dysfunctions following cervical cancer treatment.

The main reason of sex life impairment in both groups was fear of pain (55.55% and 42.86%, respectively (p> 0.05)), what is consistent with before mentioned statement that emotional and psychological factors are responsible for majority of problems in sexual functioning. In the irradiated group more than one fourth of patients (28.54%) mention poor vaginal lubrication, and in the surgery group more than 10% of patients mention sickness of partner as the reason of worsening of sexual life.

Table 5 reveals a comparison of the examinees attitudes regarding their partner's behavior before and after cervical carcinoma treatment. The supportive role of the partner was already well recognized in the literature as a very important factor that can facilitate psychological recovery of the patients[15]. Our patients have also recognized the important role of husband/sexual partner in their recovery. More than 80% of them didn't notice any changes in their partner's behavior or partners were more tender and caring. Only 18.75% didn't get enough support from their partners. In Table 5 we can also see that 86.79 patients were satisfied with their marriage. Furthermore, talking about sexual life appeared to even increase rather than decrease, although not statistically significant (p> 0.05). Majority of women (57.14%) feal that men fare better in life.

Table 6 shows some psychological implications following treatment in women after cervical carcinoma. Almost every third woman felt certain change in her »body image« similar in both groups (p> 0.05); 66.67% patients with surgery and 67.86% patients after irradiation), although the portion of those who felt »like they were not a woman anymore« was rather small (2.38% and 3.57%, respectively (p>0.05)).

**TABLE 5**
A COMPARISON OF THE ATTITUDES OF EXAMINEES REGARDING THEIR PARTNERS BEHAVIOUR BEFORE AND AFTER CERVICAL CARCINOMA TREATMENT

| | | |
|---|---|---|
| Behavior of the partner after treatment | | |
| Better | 3 (43.75) | |
| Worse | 27 (18.75) | |
| Same | 54 (37.50) | |
| Talking about sexual life with partner(#)*** | | |
| | Before treatment | After treatment |
| Yes | 111 (62.71) | 96 (65.31) |
| No | 66 (37.29) | 51 (34.69) |
| Do you feel that men fare better in life than women? | | |
| Better than women | 120 (57.14) | |
| Worse than women | 6 (2.86) | |
| Same as women | 84 (40) | |
| Are you satisfied with your marriage?* | | |
| Yes | 138 (86.79) | |
| No | 9 (5.66) | |
| Partly | 12 (7.55) | |

* p<0.05; ** p<0.01; *** p>0.05;
# 21 never married, 12 divorced and widowed

More than one half of patients felt more frightened for their life after treatment (55.71%). Furthermore, 58.57% of patients think that sex life is important after treatment. Very important facts are, that 92.86% surgical patients and 100% irradiated patients would recommend same kind of treatment to other women with similar diagnosis (p<0.05). From those results it can be seen that patients are more satisfied with irradiation. From our results we can see that 71.43% of patients are aware of the need for consulta-

**TABLE 6**
A SURVEY OF SOME PSYCHOLOGICAL IMPLICATIONS FOLLOWING SURGERY IN WOMEN SUFFERING FROM CERVICAL CARCINOMA

| | | |
|---|---|---|
| Attitude towards your body after treatment (body image)*** | | |
| | Surgery | Irradiation |
| Same as it was before treatment | 84 (66.67) | 57 (67.86) |
| Somehow different, but cannot specify | 39 (30.95) | 24 (28.57) |
| Like I am not a woman anymore | 3 (2.38) | 3 (3.57) |
| Do you feel more frightened for your health after treatment? | | |
| More | 117 (55.71) | |
| Less | 33 (15.72) | |
| Same | 60 (28.57) | |
| Is sexual life, in your opinion, important after treatment? | | |
| Yes | 123 (58.57) | |
| No | 51 (24.29) | |
| I do not know | 36 (17.14) | |
| Would you recommend this kind of treatment to other women?* | | |
| | Surgery | Irradiation |
| Yes | 117 (92.86) | 84 (100.00) |
| No | 9 (7.14) | 0 (0.00) |
| What kind of consultation regarding sex life after treatment would you recommend to other women? | | |
| Women and her physician | 60 (28.57) | |
| Women, her husband an physician | 90 (42.86) | |
| Try, and if there are problems than consultation | 42 (20.00) | |
| I do not know | 18 (8.57) | |

* $p<0.05$; ** $p<0.01$; *** $p>0.05$

tions regarding sex life after diagnosis and treatment of cervical carcinoma, and 42.86% of examinees would include their partner in those consultations.

## Conclusion

This study demonstrated that women who underwent treatment of cervical carcinoma have different kind of problems. These problems include psychological and sexual impairment. Our study showed that sexual functioning after treatment of cervical carcinoma is significantly worsened; whether the treatment is surgery or irradiation. The role of the partner is referred to as very positive and supporting. Patients are aware of the need for consultations regarding sex life after diagnosis and treatment of cervical carcinoma, and great number of them would include their partner in those consultations. Nowadays this problem is considerable, because most of the physicians are focused on outcome of treatment, and psychiatrist is not a part of oncologic team. In conclusion we can say that considerable amount of attention should be given to psychological and sexual aspects of recovery of patients, because those aspects can significantly influence patients rehabilitation and prognosis[16].

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## SEKSUALNI ŽIVOT NAKON LIJEČENJA RAKA VRATA MATERNICE

## SAŽETAK

Cilj ove studije je odrediti postoje li promjene u spolnom životu žena koje boluju od raka vrata maternice nakon operacije i zračenja. Ukupno je 210 ispitanica liječenih zbog raka vrata maternice na Zavodu za ginekološku onkologiju Medicinskog fakulteta Sveučilišta u Zagrebu, u razdoblju od ožujka 2001. i ožujka 2003., ispunilo anketu. Spolni se život pogoršao u 42.86% operiranih ispitanica, kao i kod 25.00% zračenih ispitanica ($p<0.01$). Glavni razlog pogoršanja spolnog života je bio strah od bolova (55.55% i 42.86%, $p>0.05$). Više od 80% ispitanica nije primijetilo promjene u odnosu partnera prema njima. Slika o vlastitom tijelu promijenila se u gotovo svake treće žene, što se nije statistički značajno razlikovalo u obje skupine ($p>0.05$). Iz rezultata se može vidjeti da je 71.43% ispitanica svjesno potrebe za konzultacijom o spolnom životu nakon liječenja. Može se reći da je potrebno posvetiti dosta pažnje spolnom i psihološkom aspektu liječenja zbog toga što oni mogu značajno utjecati na rehabilitaciju i ishod bolesti.