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Quality of life and sexual function after surgery in early stage vulvar cancer

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Abstract

Objectives and methods: Vulvar carcinomas are rare genital malignancies. In a retrospective study on 21 patients factors influencing the quality of life and sexual function were investigated. All patients were interviewed according to the Female Sexual Function Index questionnaire (FSFI) and the Short Form 12® questionnaire (SF12).
Results: We identified 21 patients that had been operated for vulvar carcinoma FIGO stage I or IIIa in the years 2006–2008. Patients that had adjuvant radiotherapy were excluded. 14 patients had been treated by a wide excision, the other 7 by a vulvectomy. 10 patients had undergone a total inguinal lymphadenectomy, 5 patients a sentinel node biopsy.

In a multivariate analysis lymphadenectomy was the only factor influencing the patients' sexual function: Patients without lymphadenectomy or with sentinel node biopsy scored better in terms of sexual function, neither age nor the extend of the surgery resulted in a significant difference.
Conclusion: The lymphadenectomy has a negative influence on the patients' sexual function after surgical treatment for vulvar carcinoma. The indication for lymphadenectomy should hence be seen critically.

Keywords: Vulvar cancer; Clitoris-conserving surgery; Quality of life; Sexual function

Introduction

Carcinomas of the vulva are comparatively rare gynecological carcinomas, accounting for approximately 4% of malignancies. However, the numbers have been rising in recent years, especially among younger patients.[1] Furthermore, more vulvar in-situ carcinomas have been observed,[2] and they are often associated with an HPV infection.[3] Over the last two decades, treatment has become less radical and more individualized. In early cases, the former standard therapy of a vulvectomy and inguinal lymphadenectomy has been replaced by a wide excision and sentinel node biopsy.[4] The international guidelines mention neither radiotherapy nor chemotherapy to avoid extensive resection for early stage vulvar carcinoma, and these possible treatment options are uncommon in Germany.

In recent years, tools for investigating patient quality of life (QoL) have been developed. Additionally, questionnaires are available to evaluate sexual function and satisfaction after treatment. Especially for patients with an excellent long-term prognosis, QoL and sexual sensation are important aspects that do not often find much attention in medical studies.[5] The aim of this study was to investigate which factors influence patient QoL and sexual function after treatment for vulvar carcinoma.

Materials and methods

Patients with surgical treatment for vulvar carcinoma between October 2006 and September 2008 were identified. Of these, all the patients with FIGO Stage I or IIIa[6] disease treated only by surgery were recruited for the study. Their records were reviewed, and the data were analyzed retrospectively. The data extracted included age at the time of surgery, involvement of the lymph nodes, size of the tumor

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and postoperative complications. Surgery was performed either as wide excision or radical vulvectomy extending to the pelvic fascia. Lymph nodes were removed as sentinel node biopsy after Technetium (99 m) uptake or as complete inguinal-femoral lymphadenectomy. All the procedures had been performed by specialized gynecologic oncologists, and all the surgical results classified the tumors as not microscopically detectable (R0).

All the patients were interviewed on the basis of a questionnaire by the same female (R. D.). Data concerning aftercare, occurrence of relapses, lymphedema and the subjective satisfaction were collected. To evaluate quality of life (QoL), the patients were asked to fill in the Short Form-12 Health Survey Questionnaire (SF-12®).[7] The SF-12® questionnaire uses 12 items to describe a summary scale for QoL. It is divided into 8 subscales, providing two partial scores: the Mental Component Summary (MCS) and the Physical Component Summary (PCS).[7] High scores reflect better QoL. The validity of this questionnaire for patients with chronic or malignant diseases has been shown.[8]

Sexual function within the last 4 weeks prior to the interview was evaluated by the Female Sexual Function Index (FSFI) consisting of 19 questions.[9,10] The validity and benefit of the test for vulvar diseases has been confirmed.[11,12] The questions cover a range of six dimensions of sexual function. The score of each dimension is multiplied by a specific factor, resulting in the total score. A total below 26.5 in the FSFI was interpreted as a low satisfaction, and scores greater than 26.5 were considered high satisfaction.[9] In the interviews, it was not possible to get reliable, consistent and gradable information on sexual behavior of the patients, both before and after the surgery. Hence this information was not included in the evaluation.

Data compilation and analysis were performed by the statistical program *BiAS for Windows*™ using the *Mann–Whitney* Test for data without normal distribution and the *Fisher-Yates exact test with Mid-p-methods*. The confidence level was $p = 0.05$.[13] Additionally, discriminant analysis was conducted to measure prognostic factors and their impact on sexual function and QoL. Discriminant analysis identified the independent variables that discriminated a nominally scaled dependent variable of interest. The linear combination of independent variables indicated the discriminating function, showing the large differences that exist in the two group means. The consent of an ethic committee was not required, as the study was retrospective.

Results

From October 2006 to September 2008, a total of 76 patients underwent surgery for vulvar malignancies in our department. 23 of these patients met the criteria for our study, and of these, a follow-up was possible for 21 patients (91%) who were included in the study. The median age of these patients was 59 years (48–71 y). Of the 21 patients, 6 had a tumor stage T1a. In 15 patients, the tumor stage was T1b, the tumor being larger than 2 cm in 8 of these.[14] According to the guidelines for T1a tumors, lymphadenectomy was omitted, while in the other cases, 5 inguinal sentinel node biopsies and 10 total inguinal lymphadenectomies were performed. One node showed carcinomatous spread in 2 patients, 2 nodes were involved in one patient, and the nodes were free in all the other cases. According to the national guideline, postoperative radiotherapy is advised only when three or more nodes are carcinomatous or if there were lymph node metastasis with extra capsular spread or greater diameter.[15] Therefore, no patients received adjuvant radiation (Table 1).

At the end of surgery, all the patients were macroscopically and microscopically tumor free. The minimum distance between the tumor and the resection line was 10 mm. Four patients (19%) had seven postoperative complications: urinary tract infections ($n = 3$), seroma ($n = 2$), and failure of wound healing ($n = 2$). All the patients healed under conservative management, and no revision surgeries were necessary. No patients died after surgery.

Table 1
Clinico-pathological characteristics of the patients.

Number of patients	21		
	Median	Min	Max
Age (years)	59	48	71
Tumor size (mm)	27	3	60
	n		
Tumor stage	T1a (<1 mm depth of invasion)	T1b size <2 cm	T1b size >2 cm
	6	7	8
Lymph node stage	N0	N1a	N1b
	18	2	1
Surgical procedure	Wide excision		Vulvectomy
	14		7
Clitoris spared/resected procedure	Spared 11		Resected 10
Lymph node procedure	Total inguinal Lymph node dissection		No total Lymph node dissection
	10		11
			Sentinel node biopsy / No Lymph node dissection
			5 / 6

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