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NEGATIVE IMPACT OF PELVIC FLOOR SYMPTOMS FOLLOWING CERVICAL CANCER TREATMENT IS PREDOMINANTLY RELATED TO THE PATIENT'S PSYCHOSOCIAL STATUS

Hypothesis / aims of study

To identify demographic, disease-related and psychosocial variables associated with severe impact from pelvic floor symptoms in women treated for cervical cancer.

Study design, materials and methods

Cervical cancer patients treated between 1997 and 2007 in a university hospital in the Netherlands were included in this study. Patients with a disease free interval of at least 12 months were sent a questionnaire including:

- 1. The Uro-Genital Distress Inventory (UDI) to measure the quality of life (QOL) related to micturition.
- 2. The Defecatory Distress Inventory (DDI) to measure the QOL related to defecation.
- 3. Questions to assess demographic variables
- 4. The Health Survey SF36 to measure general physical and mental health
- 5. The Body Image Scale to assess distress related to body image
- 6. The Life Orientation Test to quantify dispositional optimism

In addition, disease-related variables were extracted from patients' medical files.

Severe impact from pelvic floor symptoms was defined as scoring above the 90th percentile of symptom domain scores of the UDI and DDI of a general female population (1).

Multivariate logistic regression analysis was performed to identify per pelvic floor symptom domain which variables were independently related to severe impact from that symptom.

Results

We analyzed data from 282 cervical cancer patients: 148 were treated with radical hysterectomy and pelvic lymph node dissection (RH+LND), 61 with surgery and adjuvant radiotherapy (SART) and 73 with primary radiotherapy (PRT). All treatment groups experienced severe impact from uro-genital symptoms. PRT patients experienced severe impact from defecation symptoms as well.

The table shows the results of independent variables related to severe impact from pelvic floor symptoms for which more than 20% of patients scored above the cut-off score.

Interpretation of results

Impact of pelvic floor symptoms was predominantly related to psychosocial variables. Less severe impact of pelvic floor symptoms was related to better mental and physical QOL. Women with better mental and physical QOL have different coping strategies than women who score lower on general QOL, and could therefore be less distressed by pelvic floor symptoms (2). More severe impact of pelvic floor symptoms was related to negative body image. Negative body image is a known result of cervical cancer treatment (3). Lacking possibilities to analyze causalities in this study, it could be that anal incontinence for example, worsens negative body image even more after cervical cancer treatment.

In surgically treated patients multiparity appeared to be associated with more impact of urinary incontinence. Childbirth is known to be related to stress urinary incontinence by damage and weakening of the pelvic floor and urethra. Together with radical surgery, which damages pelvic nerves and vascularisation, multiparity increases severe impact of urinary incontinence. We also observed in surgically treated patients a relation between more impact of obstructive voiding and larger tumor diameter. In case of larger tumor diameter surgery is likely to be more radical resulting in more innervation trauma of the detrusor muscle and thus a weaker contraction which results in obstructive voiding symptoms.

In patients treated with primary radiotherapy a higher FIGO stage of disease appeared to be related to more impact of overactive bladder symptoms. The explanation of this finding is probably that the radiation intensity increases with FIGO stage, with more damage to the urothelium of the bladder and fibrosis of the bladder wall as result.

Concluding message

Variables 1

Pelvic floor symptoms have a major impact on quality of life in patients treated for cervical cancer. Psycho-social factors appear to have stronger associations with the impact of pelvic floor symptoms in this category of patients, as compared to demographic or disease related factors. This is clinically relevant as psycho-social factors hypothetically can be modified by interventions. Future studies should evaluate whether modification of psycho-social factors in cervical cancer survivors results in improved quality of life related to pelvic floor function.

voiding

psychosocial variables per treatment group											
		RH+LND		SART	PRT						
Pelvic symptoms→	floor	Urinary incontinence	Obstructiv e	Obstructive voiding	Urinary Incontinenc	Overactive bladder	Obstructiv e	Anal incontinenc			

е

voiding

Table: Independent associations between severe impact from polyic floor symptoms and demographic disease related and

Demo- graphi c	Multi- parous	OR 5.9	95% CI 1.8- 19.8	O R	95% CI	O R	95% CI	OR	95% CI	OR	95% CI	O R	95% CI	O R	95% CI
Diseas e Relate d	Tumour diameter FIGO Stage			2.8	1.2- 6.8					17.2	3.1- 95.2				
Psych	Mental Well- being			0.9	0.9- 1.0	0.9	0.9-1.0								
o- social	Physical Function			0.9	0.9- 1.0	0.9	0.8-1.0	0.9	0.9- 1.0			0.9	0.9- 1.0		
	Body Image	1.2	1.1-1.3			1.2	1.0-1.4			1.4	1.1-1.7			1.1	1.0-1.3

Legend: RH+LND: patients treated with radical hysterectomy and pelvic lymph node dissection; SART: patients treated with surgery and adjuvant radiotherapy; PRT: patients treated with primary radiotherapy; OR: Odds Ratio; 95%CI: 95% confidence interval.

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Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes