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Preoperative HADS-Scores and Quality of Life One Year after Surgery for Breast Cancer

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Methods: In April 2016, 91 patients with breast cancer, operated before April 2015, were asked to participate at a survey regarding different parameters of their quality of life. The questionnaire included the feeling of attractiveness, satisfaction with postoperative pain and scar formation as well as the overall satisfaction using a visual analogue scale (VAS; 0 – 10). These results were correlated with the preoperatively applied HADS-scores. For statistical analysis SPSS was used (Student's paired t test).

Results: 69 women (75,8 %) responded the questionnaire. Of these 8 (11,6 %) respectively 15 (21,7 %) has had an elevated score for depression respectively anxiety and 9 women (13 %) had refused to fill out the HADS-form at the time of surgery.

Keywords: HADS-score, breast cancer, quality of life.

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Preoperative HADS-Scores and Quality of Life One Year after Surgery for Breast Cancer

Korell Matthias ^α, Funkel Vanessa ^σ, Heck Esther ^ρ & Stollwerck Peter ^ω

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Results: 69 women (75,8 %) responded the questionnaire. Of these 8 (11,6 %) respectively 15 (21,7 %) has had an elevated score for depression respectively anxiety and 9 women (13 %) had refused to fill out the HADS-form at the time of surgery.

There was no significant difference regarding age, tumor stage, type of surgery and postoperative systemic therapy in the different groups. The statistical analysis showed that there was significantly more satisfaction with the postoperative pain level in patients with HADS-D > 7 vs. HADS-D < 7 (9,5 vs. 7,6; p<0,05). In contrast, patients who refused the HADS-screening showed less satisfaction with the postoperative pain level (6,4 vs. 7,9 with HADS-screening; p<0,05). In these patients, the reduction of post- versus preoperative attractiveness was significantly higher, too (- 2,0 vs. - 0,1 with HADS-screening; p<0,05).

Conclusion: One year following surgery for breast cancer, patients with preoperative elevated HADS-score (anxiety and depression) showed even better results in respect to satisfaction with postoperative pain, which could be a result of the additional psychooncological support given to these. Women who refused to participate in the HADS-screening showed worse outcome in quality of life parameters one year following surgery. This should be taken into account in our oncological practice and must be further investigated in appropriate studies. Maybe patients not participating in HADS-screening need more psychooncological support than themselves respectively physicians are expecting.

Keywords: HADS-score, breast cancer, quality of life.

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I. INTRODUCTION

The diagnosis "cancer" provokes tremendous reactions of fear and uncertainty in every person (1). The HADS-score is a worldwide accepted tool to identify patients with significant anxiety respectively depression, which is found in about 20-30% of patients primarily diagnosed with breast cancer. (2;3). The severity of psychological symptoms is influenced by the type of surgery but the quality of life is often impaired even after breast conserving operation (4).

The psychological morbidity can influence patient's outcome in many aspects. E.g. the preoperative score for depression predicts higher levels of acute postoperative pain following breast surgery (5). Patients with elevated anxiety in HADS-A-score are experiencing significant more postoperative pain, too (6)

The level of anxiety respectively depression is decreasing over time, but about one third of patients suffers from psychological morbidity even more than 1 year following breast surgery (7, 8).

We want to follow up the patients after one year following primary surgery regarding parameters of quality of life (QoL).

II. PATIENTS AND METHODS

In April 2016, 91 patients with primary breast cancer following surgery in our unit earlier than April 2015, were contacted. Preoperatively, 73 women had filled in the routinely used HADS-form, whereas 18 patients (19,8%) refused to. The patient's age was 62,9 years in average (33 – 83 min-max). The HADS results were positive for depression in 11 cases (> 7; 15,1%) and for anxiety in 17 cases (> 10; 18,7%).

Patients with elevated scores for anxiety or depression were offered intensified psychooncological support.

For statistical analysis SPSS was used (Student's paired t test after check for normality). A p-value <0,05 was regarded as significant.

III. RESULTS

69 patients (75,8%) responded and sent back the questionnaire. Table 1 displays the distribution of the preoperative HADS-findings in the group of responders.

The mean age was 63,3 years (33-83 years). 46 patients (66,7%) received breast conserving surgery, while 15 (21,7%) respectively 8 (11,6%) were operated

by mastectomy without respectively with implant reconstruction.

There was no significant difference regarding age, tumor stage, type of surgery (breast conserving versus mastectomy versus implant reconstruction) and postoperative systemic therapy in the different HADS-groups. (Table 2).

The satisfaction with the postoperative pain level was 7,7 in average (VAS „0“ – completely unsatisfied; „10“ – completely satisfied) (table 3). It was significantly higher in patients with preoperative elevated scores for depression (HADS-D > 7 9,5 versus 7,6 HADS-D < 8, $p < 0,05$). There was a trend in favour of patients with higher level of anxiety (HADS-A > 10 8,7 versus 7,6 HADS-A < 8, $p < 0,1$).

In contrast, patients who refused the HADS-screening were significant less satisfied with postoperative pain levels (HADS refused 6,4 versus 7,9 HADS accepted, $p < 0,05$).

The satisfaction with actual scar formation was 6,6 in average and showed no significant differences in the different HADS groups (VAS „0“ – completely unsatisfied; „10“ – completely satisfied) (table 4)

The results of self-estimated quality of life are displayed in table 5. It was 7,1 in average with no detectable significant differences (VAS „0“ – worse; „10“ – excellent).

The self-rated attractiveness (VAS „0“ – completely unattractive; „10“ – absolutely attractive) before and after surgery for breast cancer was not significant different (6 versus 5,6) and showed no influence of preoperative HADS-scores. (table 6).

In patients who refused HADS screening, the reduction of attractiveness before and after breast cancer was significantly higher (6,9 before and 4,9 after breast cancer versus 5,9 and 5,8 in HADS accepted – $p < 0,05$).

IV. DISCUSSION

Women with breast cancer have the highest incidence of symptomatic depression and/or anxiety compared with other cancer patients (9). Although the prognosis of breast cancer is better in general than e.g. cancer of esophagus, the breast cancer patients suffer significant more often under symptomatic depression (28,1% vs. 15,6%) respectively anxiety (32,0% vs. 8,0%) (9).

The hospital anxiety and depression score (HADS) is well established and worldwide used in different diseases to identify patients with risk for psychological morbidity (10; 11).

In patients with breast cancer the HADS screening identify a high rate of patients with significant anxiety respectively depression which can significantly impair quality of life (QoL) (3). There are several different known risk factors like e.g. young age, which leads to significantly more impairment of QoL by menopausal

symptoms, loss of fertility respectively attractiveness, weight gain, physical in activity etc.(12).

In contrary, married women showed better results than singles (13).

The advantage of breast conserving surgery versus mastectomy in respect to QoL is still significant even 5 years after the primary diagnosis (14).

In case of depressive comorbidity in breast cancer patients, the use of short-term psychodynamic psychotherapy is effective in increasing QoL (15). In the treatment group 44% were HADS-D negative versus only 23% in the control arm. Therefore, every patient with a pathological HADS result is offered an intensified psychooncological support, because an intervention with psychotherapy is effective in reducing the severity of symptoms (16).

Nevertheless, sixty-three percent of cancer patients reported one or more unmet needs (17).

Pathological HADS findings are not only problematic for the patients but also for their partners. E.g. high anxiety levels lead to severe psychosocial and psychosexual problems like premature ejaculation (18). Like cancer patients, partners are reporting requirements which are often not fulfilled, too (19; 20).

Overall, the HADS screening represents an useful screening tool to adjust the psychooncological support to the individual needs. One year after the surgery for breast cancer our patients with primarily elevated scores for anxiety respectively depression didn't show worse results in satisfaction with postoperative pain or scar formation. There was no significant decrease in self estimated attractiveness compared before and after the breast cancer surgery.

It is unknown, whether the good results of patients with pathological HADS scores are success of the intensified psychooncological support. But, there are no hints for a need to change our clinical routine.

In contrary, patients who refused to participate in HADS screening at the time of surgery showed significantly worse outcome in satisfaction with postoperative pain and attractiveness one year after treatment. We do not know the reason for some patients refusing the HADS screening. Some commented, „I don't need support – I am fine “and others announced, „I will fill it in later“, but without returning it.

Due to the small number of patients in our study one cannot draw definite conclusions. But, these results should motivate to further investigate why patients refuse to fill in our routine HADS screening chart. Possibly they need more psychooncological support than themselves respectively physicians are expecting. We will further try to follow up all patients with breast cancer and will look more closely at women who refuse participation in HADS screening.

Compliance with ethical standards

All authors state no conflicts of interests
Informed consent was obtained from all individual participants included in the study.

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Author's contribution:

M Korell: Protocol development, Data analysis, Manuscript writing

V Funkel: Data collection, Data analysis

E Heck: Protocol development, Data collection

P Stollwerck: Protocol development, Manuscript editing

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TABLES

Table 1: Distribution of HADS-results

	n	(%)
all	69	100
HADS-D 0-7	52	75,4
HADS-D > 7	8	11,6
HADS-A 0-7	33	47,8
HADS-A 8-10	12	17,4
HADS-A >10	15	21,8
HADS refused	9	13
HADS accepted	60	87

Table 2: Age distribution and type of surgery (BCS – breast conserving surgery; mastectomy; reconstruction with implant)

	n	yrs (average)	BCS	mastectomy	implant
all	69	63,3	46 (66,7%)	15 (21,7 %)	8 (11,6 %)
HADS-D 0-7	52	61,7	36 (69,2%)	8 (15,4%)	8 (15,4 %)
HADS-D > 7	8	64,9	5 (62,5%)	3 (37,5%)	0 (0 %)
HADS-A 0-7	33	62,3	22 (68,7%)	6 (18,7%)	5 (15,6%)
HADS-A 8-10	12	61,1	11 (91,7%)	0 (0 %)	1 (8,3%)
HADS-A >10	15	63,1	8 (53,3%)	5 (33,3%)	2 (13,3)
HADS refused	9	69,9	5 (55,6%)	4 (44,4%)	0 (0%)
HADS accepted	60	62,3	41 (68,4%)	11 (18,3%)	8 (13,3%)

No significance

Table 3: Satisfaction with postoperative pain level (visual analogue scale – VAS)

	VAS (SD)		
all	7,7 (2,7)		
HADS-D 0-7	7,6 (2,5)		
HADS-D > 7	9,5 (0,9)	p<0,05	vs. HADS.D 0-7
HADS-A 0-7	7,6 (2,6)		
HADS-A 8-10	7,3 (2,6)		
HADS-A >10	8,7 (1,4)	p<0,1	vs. HADS-A<7
HADS refused	6,4 (3,9)	p<0,05	vs. HADS accepted
HADS accepted	7,9 (2,1)		

(„0“ – completely unsatisfied; „10“ – completely satisfied)

SD – standard deviation, no significance beside stated



Table 4: Satisfaction with actual scar formation (visual analogue scale – VAS).

	VAS (SD)
all	6,6 (2,9)
HADS-D 0-7	6,5 (2,9)
HADS-D > 7	8 (2,8)
HADS-A 0-7	6,8 (2,8)
HADS-A 8-10	4,8 (3,4)
HADS-A > 10	7,9 (2,3)
HADS refused	6 (2,6)
HADS accepted	6,7 (2,9)

(„0“ – completely unsatisfied; „10“ – completely satisfied)

SD – standard deviation, no significance

Table 5: Self estimated quality of life (visual analogue scale – VAS).

	VAS (SD)
all	7,1 (2,2)
HADS-D 0-7	7,2 (2,4)
HADS-D > 7	7,7 (1,4)
HADS-A 0-7	7,3 (2,6)
HADS-A 8-10	7,2 (1,6)
HADS-A > 10	7,1 (2,4)
HADS refused	6,4 (1,7)
HADS accepted	7,2 (2,3)

(„0“ – worse; „10“ – excellent)

SD – standard deviation, no significance

Table 6: Self estimation of „feeling attractive“ before and after surgery of breast cancer (BC) (visual analogue scale – VAS).

	before BC	after BC	difference		
	VAS (SD)	VAS (SD)	(SD)		
all	6 (2,3)	5,6 (2,4)	- 0,4 (2,4)		
HADS-D 0-7	6 (2,4)	5,8 (2,5)	- 0,2 (2,4)		
HADS-D > 7	5,5 (3,2)	5,5 (1,4)	0 (2,8)		
HADS-A 0-7	6,1 (2,4)	6 (2,6)	- 0,1 (2,5)		
HADS-A 8-10	5 (2,5)	5 (2,0)	0 (1,9)		
HADS-A > 10	6,3 (2,7)	5,6 (2,2)	- 0,7 (2,7)		
HADS refused	6,9 (1,1)	4,9 (2,5)	- 2 (2,2)*	p<0,05	vs. HADS accepted
HADS accepted	5,9 (2,5)	5,8 (2,4)	- 0,1 (2,4)		

(„0“ – completely unalluring; „10“ – absolutely attractive)

SD – standard deviation, no significance beside stated