

Association between preoperative quality of life and wound complications after breast cancer surgery

Thamiris Seippel de Araujo Brum (Iniciação Científica): National Cancer Institute José Alencar Gomes da Silva (INCA). **Julia de Mello Ramirez Medina**: National Cancer Institute José Alencar Gomes da Silva (INCA). **Suzana Sales de Aguiar**: National Cancer Institute José Alencar Gomes da Silva (INCA). **Luiz Claudio Santos Thuler** (Co-orientador): National Cancer Institute José Alencar Gomes da Silva (INCA); Federal University Of Rio de Janeiro State (UNIRIO). **Anke Bergmann** (Orientadora): National Cancer Institute José Alencar Gomes da Silva (INCA)

BACKGROUND

Due to the surgical treatment for breast cancer, some wound complications can occur, reducing the functionality of the patient and making recovery difficult (DE GLAS et al, 2013; LAVELLE et al, 2015). Therefore, they are directly related to patients' quality of life (ZDOŃCZYK et al, 2015). Considering that no studies have been found, until the present date, about this subject, this study contributes to understand the influence of life quality on scarring complications for the surgical treatment of breast cancer.

OBJECTIVE

To evaluate the association between preoperative quality of life and wound complications after breast cancer surgery.

METHODS

Prospective cohort study, in women diagnosed with breast cancer, who would perform surgical treatment as the first treatment at Hospital do Câncer III. As the main exposition, was considered quality of life, measured in the preoperative period, evaluated through the EORTC QLQ-C30 3rd version and EORTC QLQ-BR23. The wound complications (seroma, necrosis, surgical site infection (SSI) and hematomas) were considered as outcomes, evaluated 30 days after the surgical procedure. A descriptive analysis of the study population was performed. The mean and standard deviations of the quality of life scores in the preoperative period were calculated according to the cicatricial complications (tissue necrosis and seroma) and the mean difference by means of the t test. This study was approved by the INCA Research Ethics Committee on February 2, 2016.

RESULTS

289 patients were included in the study. The mean age of the women was 58.54 years (\pm DP 11,01) (table 1). The seroma evidenced as the complication after surgery of breast cancer more incident (29.1%) (table 4). When comparing the means of quality of life scores according to the presence or absence of scarring complications, patients with less symptomatology of diarrhea and hair loss had less tissue necrosis ($p=0.003$ and $p=0.002$, respectively) (table 5). Patients who presented greater symptoms of diarrhea, worse body image and sexual function, and fewer symptoms in the breast presented seroma in the postoperative period ($p=0.022$, $p=0.014$, $p<0.001$ and $p=0.008$, respectively) (table 5).

Table 1. Socio-demographic characteristics of the study population (N=289)

Characteristics	N	%*
Age		
Mean (\pm SD)	58,54 (11,01)	
Race/ skin color		
White	114	39,6
Black	56	19,4
Yellow or indigenous	9	3,1
Brown	106	36,8
With Partner		
Yes	156	54,2
No	132	45,8
Educational level (years)		
0 to 7 years	104	36,1
\geq 8 years	184	63,9
Working		
No	177	61,5
Yes	111	38,5
Per capita income		
\leq 1 minimum wage	168	58,5
$>$ 1 minimum wage	119	41,5
Alcohol consumption in the last 30 days		
No	75	70,1
Yes	28	26,2
Smoking during life		
No	198	68,5
Yes	86	29,8

* Valid percentages were calculated.

Table 2. Clinical characteristics of the study population (N=289)

Variables	N	%
Menopause status		
Pre-menopause	41	16,3
Post-menopause	176	60,9
Histological type of tumor		
Infiltrating Ductal Carcinoma	125	43,3
Others	49	17,0
Body-mass index		
Underweight	4	1,4
Eutrophic	56	19,4
Overweight	83	28,7
Obese	87	30,1
Arterial hypertension		
No	51	47,7
Yes	56	52,3

* Valid percentages were calculated.

Table 3. Domains of health-related quality of life at the time of study inclusion (N = 289).

EORTC QLQ C-30	Mean (\pm SD)
Function scales	
Physical function	84,64 (18,01)
Role function	83,39 (74,33)
Cognitive function	74,33 (27,62)
Emocional function	61,86 (29,38)
Social function	86,01 (26,13)
Symptom scales	
Fatigue	19,13 (23,69)
Pain	22,79 (30,03)
Dyspnea	8,94 (22,50)
Insomnia	35,54 (41,52)
Appetite loss	10,57 (25,56)
Nausea and vomit	5,23 (12,61)
Constipation	21,84 (35,53)
Diarrhea	5,92 (19,10)
Financial difficulties	25,44 (39,42)
Global health status	73,19 (21,28)
EORTC BR-23	
Function scales	
Body image	85,14 (23,50)
Sexual function	30,44 (31,48)
Future perspective	42,74 (39,53)
Symptoms scales	
Systemic therapy side effects	16,78 (16,79)
Upset by hair loss	27,11 (39,02)
Breast symptoms	13,07 (17,80)
Arm symptoms	13,24 (19,14)

SD= standard deviation. For a function scale, the higher the score, the better the QVRS; For the symptoms scale, the higher or lower the worse the QVRS.

Table 4. Complications of surgical wound surgery for breast cancer.

Variables	N*	%
Tissue necrosis		
No	55	69,6
Yes	17	21,5
Seroma		
No	49	62,0
Yes	23	29,1
Hematoma		
No	71	89,9
Yes	0	0
Surgical site infection		
No	69	87,3
Yes	2	2,6

*Valid percentages were calculated.

Table 5. Scarring complications (tissue necrosis and seroma) according to the quality domains of life

Variables	Necrosis		P value	Seroma		P value
	No	Yes		No	Yes	
EORTC QLQ C-30						
Function scales						
Global health status	73,78 (21,12)	73,44 (21,99)	0,990	74,49 (21,74)	71,97 (20,18)	0,569
Physical function	85,09 (17,45)	84,70 (12,64)	0,187	85,17 (15,77)	84,64 (17,92)	0,687
Role function	81,52 (27,53)	79,41 (29,77)	0,892	79,25 (30,53)	84,78 (21,27)	0,037
Cognitive function	75,46 (29,02)	79,41 (23,22)	0,533	74,83 (29,09)	79,71 (24,60)	0,151
Emocional function	62,88 (26,92)	66,18 (31,38)	0,313	62,42 (28,77)	66,30 (26,17)	0,480
Social function	84,85 (24,90)	88,24 (26,85)	0,779	83,33 (28,05)	90,58 (17,28)	0,082
Symptom scales						
Fatigue	13,74 (19,36)	22,22 (23,90)	0,577	16,55 (22,00)	14,01 (17,80)	0,260
Pain	26,36 (31,54)	27,45 (33,82)	0,996	28,23 (31,40)	23,19 (33,23)	0,567
Dyspnea	10,30 (25,56)	11,77 (20,21)	0,959	11,57 (26,83)	8,70 (18,03)	0,275
Insomnia	24,24 (35,98)	31,37 (41,62)	0,224	23,13 (35,49)	31,88 (40,80)	0,202
Appetite loss	7,88 (23,10)	13,73 (29,01)	0,167	10,20 (24,72)	7,25 (24,53)	0,475
Nausea and vomit	5,76 (12,92)	4,90 (7,83)	0,307	5,44 (12,45)	5,80 (10,79)	0,964
Constipation	28,49 (40,28)	29,41 (37,05)	0,738	26,53 (38,48)	33,33 (41,44)	0,275
Diarrhea	11,52 (27,38)	1,96 (8,08)	0,003	6,80 (20,39)	14,49 (31,50)	0,022
Financial difficulties	29,09 (41,10)	35,29 (43,25)	0,727	29,93 (41,52)	31,88 (42,02)	0,901
EORTC BR-23						
Function scale						
Body image	83,18 (19,86)	89,71 (13,67)	0,169	89,41 (14,56)	75,00 (22,61)	0,014
Sexual function	26,97 (29,13)	23,53 (30,65)	0,774	34,01 (31,54)	9,42 (13,13)	<0,001
Future perspective	44,24 (43,06)	52,94 (39,19)	0,266	45,58 (41,77)	47,83 (43,61)	0,703
Symptoms scales						
Systemic therapy side effects	18,62 (17,42)	19,61 (16,23)	0,849	17,40 (16,25)	21,95 (18,60)	0,983
Upset by hair loss	37,26 (40,62)	3,70 (11,11)	0,002	22,92 (33,82)	30,00 (42,89)	0,229
Breast symptoms	13,03 (15,69)	10,29 (13,98)	0,943	14,29 (15,96)	8,33 (13,06)	0,008
Arm symptoms	14,75 (22,94)	12,42 (14,64)	0,148	16,55 (21,89)	9,18 (19,14)	0,213

CONCLUSION

In the mean comparison of quality of life scores according to cicatricial changes, patients with better QVRS scores had a lower frequency of tissue necrosis and postoperative seroma.

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