The relationship between the anxiety to use ipsilateral limb and ipsilateral shoulder active range of motion and instrumental daily living activities after breast cancer surgery

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Introduction

- Breast cancer patients almost are generations doing housework.
- In case of the perioperation, the patients stay only short term in hospital. So, the patients often have to resume Instrumental Activities of Daily Living (IADL) early after discharge.
- However, they often feel anxiety about using ipsilateral limb.

Aims

- To explore relationship between the anxiety to use ipsilateral limb and ipsilateral shoulder active range of motion (AROM) and IADL in patients with anxiety.

Methods

【Study design】

Observational and retrospective study in single institute (IRB approval No. : 30-J4-30-1-3)

【Subjects】

27 breast cancer patients who underwent surgery and perioperative occupational therapy (Fig.1) in 2010. (Shizuoka Cancer Center, Japan)

Fig 1: Intervention of Occupational Therapy (OT)

【Classification】

Patients were classified to anxiety group (AG, n=14) and non-anxiety group (NAG, n=13) according to the question about anxiety to use ipsilateral limb at first outpatient visit after discharge. (Fig.2)

Fig 2: Classification of subject

【Measurements】

Frenchay Activities Index (FAI)

- Questionnaire about IADL, 15 items
- Each item 0-3 score
- Total score 0 (inactive) - 45 (active)
- Classification as subscale 5 items (Indoor Housework, Outdoor Housework, Outdoor Activities, Hobby and Work)

Range of motion (ROM)

- Ipsilateral shoulder active range of motion (AROM)
- Flexion and abduction

【Schedule of Assessments】

Fig 3: Schedule of assessments

Patient characteristics

Table1: patient characteristics

	All (N=27)	Anxiety Group (N=14)	Non-Anxiety Group (N=13)	P-value (AG vs NAG)
Age (median±SD)	60±10	58±9	64±12	0.7
Breast				0.7
Mastectomy	8	5	3	
Partial resection / quadrantectomy	19	9	10	
Lymph nodes				0.02
Sentinel lymph node biopsy (SNB)	17	6	11	
Axillary lymph node dissection (Ax)	10	8	2	
Work	14 (52%)	7 (50%)	7 (54%)	
Main houseworker	24 (89%)	13 (93%)	11 (85%)	

Result

Fig4 : FAI score (T1)

Fig 5: FAI score (T2)

- At T1 and T2, both group had similar FAI total score (AG vs NAG T1: 32 ± 6 vs 28 ± 9 , $p=0.3$, T2: 27 ± 8 vs 25 ± 7 , $p=0.6$) and subscale scores.

Fig 6: AROM: flexion

Fig 7: AROM: abduction

- At T2, patients in Anxiety group had worse AROM in shoulder flexion ($129 \pm 28^\circ$ vs $150 \pm 15^\circ$, $p<0.05$) and abduction ($124 \pm 43^\circ$ vs $155 \pm 21^\circ$, $p<0.05$) than those in Non-anxiety group.

Conclusion

- The study showed that breast cancer patients have to do housework, even if they feel anxiety and have restricted AROMs.
- On the other hand, it is predicted that the patients feels more difficult to do housework, as anxiety and AROM restrictions become stronger.
- We consider that it is important to improve physical function, mental state, ADL and IADL as soon as possible. OT intervention can support comprehensive.