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)

Hospitalization
About 10 days

Preoperative OT

Outpatient care
Per 2-3 weeks

➢ Aims to...
- Improvement of shoulder joint range of motion (ROM)
- Preventive education about Lymphedema

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

Table 1: Patient characteristics

<table>
<thead>
<tr>
<th></th>
<th>All (N=27)</th>
<th>Anxiety Group (N=14)</th>
<th>Non-Anxiety Group (N=13)</th>
<th>P-value [AG vs NAG]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (median±SD)</td>
<td>60±10</td>
<td>58±9</td>
<td>64±12</td>
<td>0.7</td>
</tr>
<tr>
<td>Breast</td>
<td></td>
<td></td>
<td></td>
<td>0.7</td>
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<tr>
<td>Mastectomy</td>
<td></td>
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<td></td>
<td>0.7</td>
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<tr>
<td>Partial resection / quadrantectomy</td>
<td></td>
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<tr>
<td>Lymph nodes</td>
<td></td>
<td></td>
<td></td>
<td>0.02</td>
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<tr>
<td>Sentinel lymph node biopsy (SNB)</td>
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<tr>
<td>Axillary lymph node dissection (Ax)</td>
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<tr>
<td>Work</td>
<td></td>
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<td></td>
<td>0.02</td>
</tr>
<tr>
<td>Main houseworker</td>
<td></td>
<td></td>
<td></td>
<td>0.02</td>
</tr>
</tbody>
</table>

Patient characteristics

➢ 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 4: FAI score (T1)
Fig 5: FAI score (T2)

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

Fig 6: AROM: flexion
Fig 7: AROM: abduction

➢ 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.

Fig 3: Schedule of assessments

Fig 8: Schedule of assessments