The usefulness of oncoplastic breast surgery with rotation flap supercharged with lateral thoracic artery perforator in partial mastectomy defect

Dong Hun Choi¹, Yun Hyun Kim¹, Joon Seok Lee¹, Jeong Woo Lee¹, Kang Young Choi¹, Ho Yun Chung¹, Byung Chae Cho¹, Ho Yong Park², Jung Dug Yang¹.

Department of Plastic and Reconstructive Surgery¹, Departments of Surgery², Kyungpook National University School of Medicine, Daegu, Korea.

Chilgok Kyungpook National University Hospital

Dong Hun Choi

Jung Dug Yang*
Introduction

• Breast conserving surgery (BSC)
  • safe option in the treatment of early breast cancer

Early-stage Breast cancer → Oncologic Safety

■ Mastectomy
  =

■ BCS + Radiotherapy

Oncologic principles + Cosmetic satisfaction
Introduction

Small to moderate-sized breasts

Small defect
- Volume displacement
  - Round block technique
  - Tennis racket method
  - Purse-string suture

Moderate defect
- Volume Replacement
  - Regional flap
    - Rotation flap
    - Lateral thoracodorsal flap
    - Thoracoepigastric flap
  - Perforator flap
    - ICAP flap, TDAP flap

Large defect
- Volume Replacement
  - MS-LD flap
  - Mini-LD flap
  - LD flap
Introduction

Small to moderate-sized breasts

Small defect

Volume displacement
- Round block technique
- Tennis racket method
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Small to moderate-sized breasts

Large defect
Volume Replacement
MS-LD flap
Mini-LD flap
LD flap
Introduction

Small to moderate-sized breasts

moderate defect

Volume Replacement

Regional flap
  Rotation flap
  - Lateral thoracodorsal flap
  - Thoracoepigastric flap

Perforator flap
  ICAP flap, TDAP flap
Introduction

• Rotation flap
  • type of oncoplastic breast surgery

Figure 6. Rotation flap. (A) Preoperative design. (B) Lumpectomy and flap elevation. (C) Flap rotation and closure.

Yang, J. D. et. al. (2012). Journal of Breast Cancer
Introduction

• Design

• Draw Semi-circular line from upper pole of the defect.
• Make axillary triangular incision window to minimize the deformity

Introduction

• Rotation flap
  • Easy, fast
  • It can cover most moderate sized defect.
  • Wound dehiscence, Fat necrosis, flap margin necrosis, scar...

Supercharged with lateral thoracic artery perforator
Patients

- Retrospective review
  - Medical chart, Radiologic finding review
  - Clinical photos

- Characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of patients</td>
<td>77</td>
</tr>
<tr>
<td>LTAP Supercharging group</td>
<td>41</td>
</tr>
<tr>
<td>LTAP Non-supercharging group</td>
<td>36</td>
</tr>
<tr>
<td>Age</td>
<td>46.13</td>
</tr>
<tr>
<td>BMI (Kg/cm²)</td>
<td>23.85</td>
</tr>
<tr>
<td>Breast volume (ml)</td>
<td>313.05</td>
</tr>
<tr>
<td>Tumor weight (g)</td>
<td>83.67</td>
</tr>
<tr>
<td>Volume loss (%)</td>
<td>25.02</td>
</tr>
</tbody>
</table>
Method

- Lateral thoracic artery perforator (LTAP)

Supercharged with lateral thoracic artery perforator
Patients

• Tumor location
  • Upper quadrant : 71 Patients / Lower quadrant : 6 Patients

<table>
<thead>
<tr>
<th>Variables</th>
<th>Results (No of patients)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumor Location</td>
<td></td>
</tr>
<tr>
<td>Supero (71)</td>
<td>Lateral 12</td>
</tr>
<tr>
<td></td>
<td>Central 25</td>
</tr>
<tr>
<td></td>
<td>Medial 34</td>
</tr>
<tr>
<td>Infero (6)</td>
<td>Lateral 3</td>
</tr>
<tr>
<td></td>
<td>Central 3</td>
</tr>
<tr>
<td></td>
<td>Medial 0</td>
</tr>
</tbody>
</table>

![Diagram showing tumor location distribution](image-url)
Methods

• Surgical technique

F/40, 3cm IDC (1-2h)
Breast vol. Rt. Lt. 320 / 310
tumor weight 59g
Results

- A 32 year-old female
- 1.84cm IDC at 4cm away from the nipple
- **Supero-medial area** (2 o’clock direction)
Results

- A 47 year-old female
- 3cm IDC at 4cm away from the nipple
- **Supero-medial area (1 o’ clock direction)**
Results

- A 42 year-old female
- 3.82cm IDC at 4cm away from the nipple
- Supero-central area (11 o’ clock direction)
Results

- A 50 year-old female
- 1.1cm IDC at 3cm away from the nipple
- Infero-central area (6 o’clock direction)
Results

- LTAP supercharging

<table>
<thead>
<tr>
<th></th>
<th>Supercharging group</th>
<th>Non-supercharging group</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of patients</td>
<td>41</td>
<td>36</td>
</tr>
<tr>
<td>Fat necrosis (%)</td>
<td>4.9 (2/41)</td>
<td>40 (9/36)</td>
</tr>
</tbody>
</table>

Radiologic findings

Supercharging group, significantly less incidence of fat necrosis
Conclusion

- Relatively simple, Fast procedure
- Can cover most moderate sized defects after BCS
- Lower donor morbidity
- Excellent aesthetic outcomes
- LTAP supercharged flap
Thank you for your attention