Table S1 Individual data from the robo-DIEP group patients, related to (A) relevant patient history, (B) operative details, and (C) post-operative recovery.

A) Patient History

| Patient Code | Age | Procedure Type | Timing | Diagnosis | Side of Diagnosis | Family History of Breast Cancer | Gene Mutation |
|---|---|---|---|---|---|---|---|
| 1 | 63 | Bilateral | Delayed | IDC | L | No | No |
| 2 | 69 | Bilateral | Delayed | IDC | R | No | No |
| 3 | 47 | Bilateral | Delayed-Immediate | IDC | L | No | No |
| 4 | 55 | Bilateral | Delayed-Immediate | IDC | L | No | No |
| 5 | 56 | Bilateral | Delayed-Immediate | DCIS | R | No | No |
| 6 | 48 | Unilateral | Immediate | DCIS | R | No | No |
| 7 | 44 | Bilateral | Delayed | IDC | L | No | No |
| 8 | 65 | Bilateral | Delayed-Immediate | N/A | N/A | Yes | No |
| 9 | 73 | Unilateral | Immediate | IDC | L | No | No |
| 10 | 66 | Bilateral | Delayed-Immediate | IDC | L | No | No |
| 11 | 30 | Bilateral | Delayed | IDC | L | No | BRCA |
| 12 | 69 | Unilateral | Delayed | DCIS | R | No | No |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 13 | 40 | Bilateral | Delayed | IDC | R | No | No |
| 14 | 66 | Unilateral | Delayed | IDC | L | No | No |

## B) Operative Details

| Patient Code | Total Operative Time (Hours) | Trochar Placement Time (min) | Pedicle Time, Breast 1 (min) | Pedicle Time, Breast 2 (min) | Closure Time, Breast 1 (min) | Closure Time, Breast 2 (min) | Dock Time (hours) | Right Flap Vessel Length (A/V) (mm) | Left Flap Vessel Length (A/V) (mm) | Pedicle length (cm) | Fascial Incision Length: Breast 1, Breast 2 (cm) | Number of Perforators: Breast 1 ,Breast 2 | Ischemia Time: Breast 1, Breast 2 (min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14.68 | 19 | 38 | 59 | 8 | 10 | 2.37 | 2.7/2.5 | 3.0/3.5 | 13,17 | 6.5,3.5 | 3,3 | 39,56 |
| 2 | 13.83 | 10 | 22 | 16 | 6 | 5 | 1.17 | 2.5/4.0 | 2.5/>4.0 | 14,10.5 | 4.5,5.0 | 2,2 | 59,72 |
| 3 | 14.65 | 5 | 20 | 37 | 5 | 10 | 1.55 | 3.0/>4.0 | 3.0/>4.0 | 15,13 | 4,5 | 2,2 | 34,37 |
| 4 | 12.53 | 10 | 49 | 52 | 5 | 7 | 2.3 | 2.5/>4.0 | 2.8/>4.0 | 15,16 | 3,2 | 2,1 | 21,35 |
| 5 | 12.67 | 11 | 12 | 19 | 5 | 10 | 0.9 | | | | 5,6.5 | 1,3 | 51,51 |
| 6 | 10.03 | 8 | 59 | N/A | 3 | N/A | 0.47 | | 2.7/3.5 | 13.5 | 5 | 2 | 58 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 10.9 | 4 | 23 | 22 | 7 | 5 | 1.07 | 2.5/2.5 | 2.4/3.0 | 15,14 | 3,5.8 | 2,1 | 39,62 |
| 8 | 11.35 | 8 | 30 | 26 | 5 | 6 | 1.25 | 3.0/4.0 | 3.0/>4.0 | 15,15 | 2.5,3 | 2,1 | 40,30 |
| 9 | 7.48 | 12 | 19 | N/A | 6 | N/A | 0.5 | 3.0/4.0 | | 15 | 2.5 | 1 | 45 |
| 10 | 10.58 | 4 | 25 | 27 | 3 | 4 | 1.17 | 2.5/>4.0 | 2.8/>4.0 | 13,14 | 4.8,1.8 | 2,1 | 35,41 |
| 11 | 9.8 | 5 | 30 | 34 | 6 | 4 | 1.3 | 2.5/>4.0 | 2.5/>4.0 | 11,15 | 2.4,1.5 | 1,1 | 40,53 |
| 12 | 7.8 | 7 | 32 | N/A | 8 | N/A | 0.77 | | 2.5/>4.0 | 15 | 3 | 2 | 40 |
| 13 | 10.28 | 8 | 47 | 43 | 4 | 12 | 1.97 | 2.8/>4.0 | 2.8/>4.0 | 15,14.5 | 1,2 | 1,1 | 38,41 |
| 14 | 6.45 | 6 | 13 | N/A | 8 | N/A | 0.43 | 2.5/3.5-4 | | 11 | 2.5 | 1 | 55 |

## C) Postoperative Recovery

| Patient Code | Length of Stay (days) | Pain Score Day 1 | Pain Score Day 2 | Pain Score Day 3 | Patient-Controlled Anesthesia (PCA)? | Number of Days for Return of Bowel Function | Morphine equivalents Day 1 | Morphine equivalents Day 2 | Morphine equivalents day 3 | Total Morphine equivalents | Total Anti-emetic Doses | Total Zofran Doses | Total Reglan Doses | Total Compazine Doses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 7.75 | 7 | 4.7 | No | 1 | 21.6 | 27 | 10.8 | 59.4 | 1 | 1 | 0 | 0 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 4.125 | 2.15 | 0 | No | 1 | 22.5 | 15 | 5 | 42.5 | 1 | 1 | 0 | 0 |
| 3 | 5 | 4.1 | 5.25 | 5.21 | Yes | 2 | 744.12 | 1006.5 | 1662 | 3412.62 | 1 | 1 | 0 | 0 |
| 4 | 4 | 3.09 | 0.33 | 3.4 | No | 1 | 48.75 | 0 | 0 | 48.75 | 3 | 3 | 0 | 0 |
| 5 | 7 | 5.6 | 5.22 | 5.2 | No | 1 | 45 | 60 | 30 | 135 | 1 | 1 | 0 | 0 |
| 6 | 6 | 2.4 | 2 | 2.7 | No | 2 | 41.1 | 30 | 37.5 | 108.6 | 2 | 2 | 0 | 0 |
| 7 | 4 | 2.56 | 1.6 | 2.2 | No | 1 | 10 | 15 | 10 | 35 | 1 | 1 | 0 | 0 |
| 8 | 5 | 3.8 | 3.77 | 3.63 | No | 1 | 45 | 12 | 4 | 61 | 1 | 1 | 0 | 0 |
| 9 | 4 | 3 | 3.25 | 3.55 | no | 1 | 50 | 70 | 75 | 195 | 2 | 1 | 1 | 0 |
| 10 | 6 | 3.9 | 3 | 1.86 | No | 1 | 10.8 | 15 | 7.5 | 33.3 | 1 | 1 | 0 | 0 |
| 11 | 4 | 7.8 | 6.3 | 5.25 | Yes | 1 | 540 | 1482 | 900 | 2922 | 3 | 1 | 0 | 2 |
| 12 | 5 | 5.2 | 4.8 | 3.1 | No | 1 | 15 | 30 | 15 | 60 | 2 | 1 | 0 | 1 |
| 13 | 4 | 6.6 | 6.2 | 4.5 | No | 2 | 23 | 37.5 | 60 | 120.5 | 0 | 0 | 0 | 0 |
| 14 | 3 | 0.5 | 1.28 | 0.33 | No | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |