

Abstract

Complication and Morbidity of Donor Site after Free TRAM Flap

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Transverse rectus abdominis muscle (TRAM) free flap is widely used for breast reconstruction, however donor-site morbidities such as abdominal wall weakness, hernia, bulging are troublesome. For the purpose of minimizing donor-site morbidity, there has been a surge in interests in muscle sparing free TRAM flap preserving the anatomy of rectus abdominis muscle, fascia, and motor nerve. The purpose of this study is to investigate complication and morbidity after muscle sparing free TRAM flap. Between August, 1995 and May, 2003, there were 108 cases of muscle sparing free TRAM flap of breast reconstruction. There was no abdominal hernia. There were 4 cases of dog ear, 3 cases of marginal necrosis of apron flap, 2 cases of asymmetry of umbilicus. At 1 year after operation, most patients feel comfortness in physical exercise. Muscle sparing free TRAM flap provides ample amount of well vascularized soft tissue with small inclusion of rectus abdominis muscle and fascia. Also it minimizes donor-site morbidity with rapid recovery of abdominal strength.

Key Words: Muscle sparing free TRAM flap.

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2000

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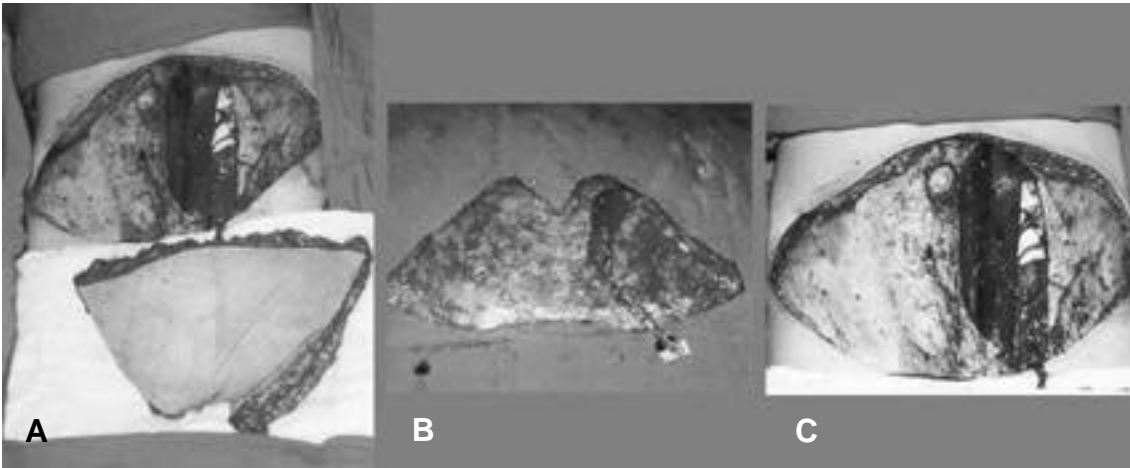


Fig. 1. (A) TRAM flap was elevated with deep inferior epigastric vessel. (B) Muscle sparing TRAM flap included only middle 1/3 muscle portion. (C) Intercostal nerves to rectus muscle were preserved.



Fig. 2. Abdominal fascia was sutured and umbilicus was located in the center of abdomen.

1995 2003 5
 108
 22 62
 18 65
 43
 5 5
 가 103
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 2 3 2×4 cm

(Fig. 1, Fig. 2).

3 , 6 , 1

108

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3

4

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2

(Table 1).

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Table 1. Complication of TRAM flap donor site

Complication of donor site	Number
Dog ear	4
Marginal necrosis	3
Seroma	2
Hernia	0

Table 2. Questionnaire about appearance of abdomen and postoperative change

Improvement of Silhouette	81.2%
Complaints of epigastric bulging but no hernia	15.6%
Scar	8.6%
Decreased sensation on abdomen	34.4%
Asymmetry of umbilicus	6.1%
Discomforts in physical exercise	3.1%



Fig. 3. Curl-up and rotation performance (postop 1 year)

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 5 가 가 1 (Table 3).
 가 1 2
 가 (cybex)
 2 1 (Table 4).
 3 1 1
 90% (Fig. 3, Table 2).

Table 3. Subjective ability of flexion and rotation of waist (preoperative range of motion is converted to 100 percent).

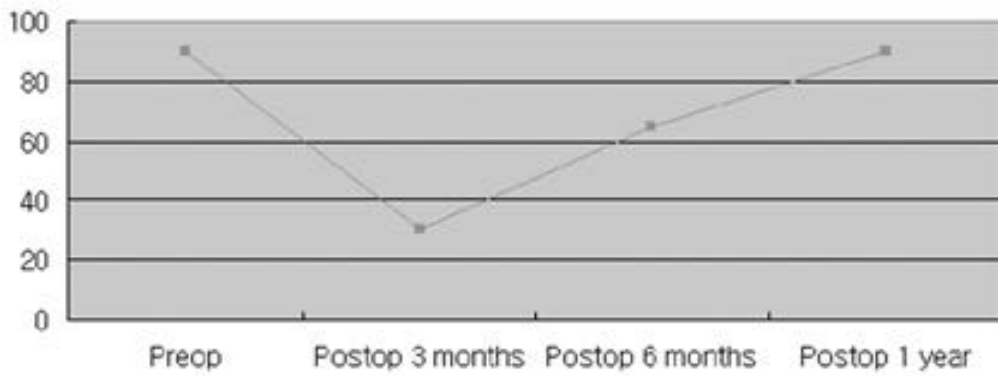
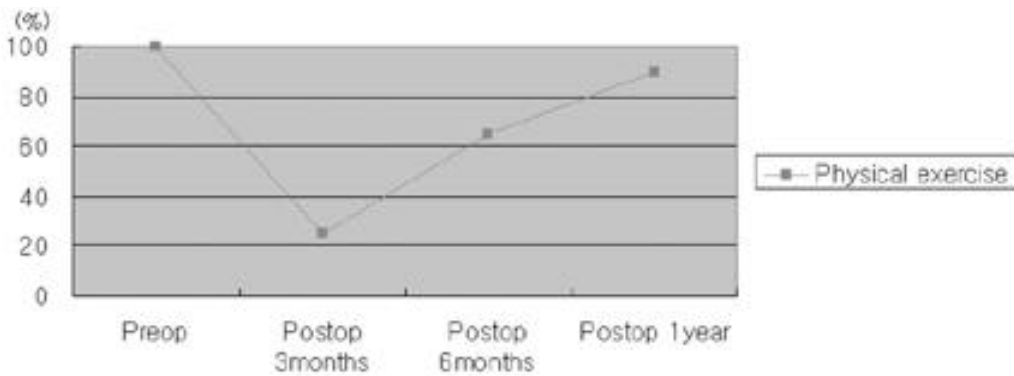


Table 4. Measured ability of physical exercise by Cybex dynamometer.



Holmström¹ 1979

3

1

3

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가

가

⁵

(arcuate line)

Sinikka⁰

(external oblique muscle),
oblique muscle),
abdominal muscle)

(internal
(transverse

1

가

(posterior rectus

6

. Kind

sheath)

(external oblique muscle)

가

(internal

가

3

¹¹

oblique muscle)

가

(trans-

or epigastric perforator)

(Deep inferi-

verse abdominal muscle)

가

(posterior rectus

¹²

sheath)

0 44

가

¹³⁻¹⁵

가 34.4%

가 가

가

1

(cybex)

가

가

50

70

가

가

30

(70

100

).⁶

가

가

⁷⁻⁹

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