

좌심실 부분 절제술후 좌심실 구혈율이 현저히 개선된 확장성 심근증 1예

가

정원호 · 김영준 · 권진일 · 김은아 · 최경림 · 최상진
손민수 · 오세진 · 진동규 · 고광곤 · 최인석 · 신익균

A Case of Partial Left Ventriculectomy in a Patient with End-stage Dilated Cardiomyopathy

Won-Ho Jung, MD, Yeong-Jun Kim, MD, Jin-Il Kwon, MD, Eun-A Kim, MD,
Kyung-Leem Choi, MD, Sang-Jin Choi, MD, Min-Soo Son, MD, Se-Jin Oh, MD,
Dong-Kyu Jin, MD, Kwang-Kon Koh, MD, In-Suk Choi, MD and Eak-Kyun Shin, MD

Department of Cardiology, Heart Center, Gachon Medical College, Gil Medical Center, Incheon, Korea

ABSTRACT

The end-stage dilated cardiomyopathy is usually treated with cardiac transplantation although some limited success have also been obtained in selected patients using dynamic cardiomyoplasty or medical assist devices. Recently, a new surgical alternatives, called partial left ventriculectomy (PLV) was introduced by Randas J. V Batista in 1995. A 40-year-old man who had end-stage dilated cardiomyopathy refractory to optimal doses of medicines underwent partial left ventriculectomy (Batista's operation), which reduces ventricular volume to improve left ventricular function. The left ventricular ejection fraction increased from 20 % to 58 % at 4 month after operation. (**Korean Circulation J 1998;28(7):1211-1215**)

KEY WORD : Partial left ventriculectomy.

서 론

가

3

2,500 가

: 1998 4 9

: 1998 6 25

: , 405 - 760

1198

가

: (032) 460 - 3204 ·

: (032) 469 - 4320

E - mail : ekshin@ghil.com

(Dynamic cardiomyoplasty)

(partial left ventriculectomy,

Batista's operation)

Novacor Heart -

mate

3) 6 cm 가 ,

3.26 g/dl, 6.5 g/dl,

Randas J. V. Batista 10 3.26 g/dl, 1.42 mg/dl, AST 29 IU/L,

410 4)5) ALT 22 IU/L, BUN 13.2 mg/dl, Creatinine 1.2 mg/dl

6) , CBC 4,800/mm³,

40 13.2 g/dl, 201,000/mm³

X : (Cardiothoracic ratio : 0.7)

1 (TTE) : 52 mm,

58 mm

증 례 71 mm ,

20% (Fig. 1).

(- /), (- /)

35 mmHg

3

3

120/70 mmHg, 60

47

20 / , 36.5

1

35 mm

6 cm 가 42 mm 34 37%

Grade /

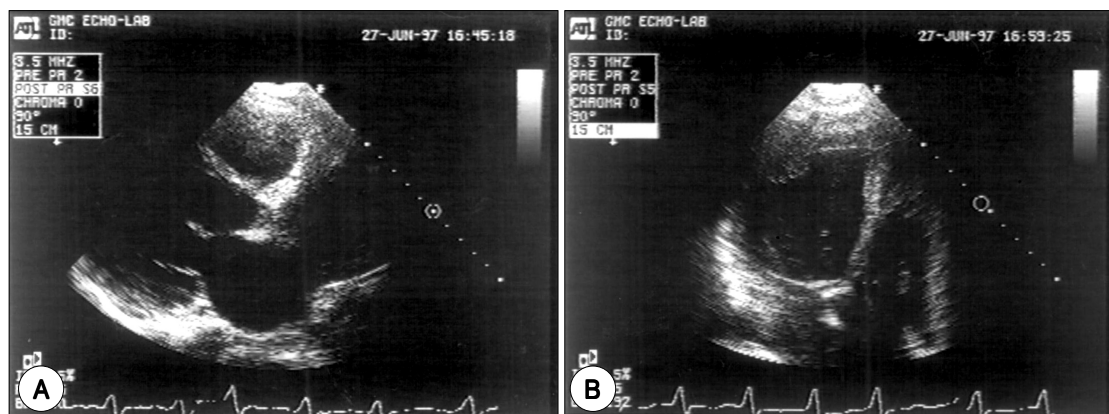


Fig. 1. Pre-operative end diastolic parasternal long axis (A) and apical four chamber (B) view.

Table 1. 수술 전 · 후 혈액학적 변화

		24	72	4
CI (L/m ²)	1.7	2.4	3.2	2.34
EF (%)	0	34 - 37	40 - 43	58
Wall stress (dynes/cm ²)	120	70	72	64
EDD (mm)	70	42	42.7	48
ESD (mm)	62	35	25.5	36
EDV (ml)	173	96	83	106
ESV (ml)	147	60	43	44

CI : cardiac index
Wall stress : left ventricle systolic wall stress (Meridional)
ESD : end systolic dimension
ESV : end systolic volume

EF : ejection fraction
EDD : end diastolic dimension
EDV : end diastolic volume

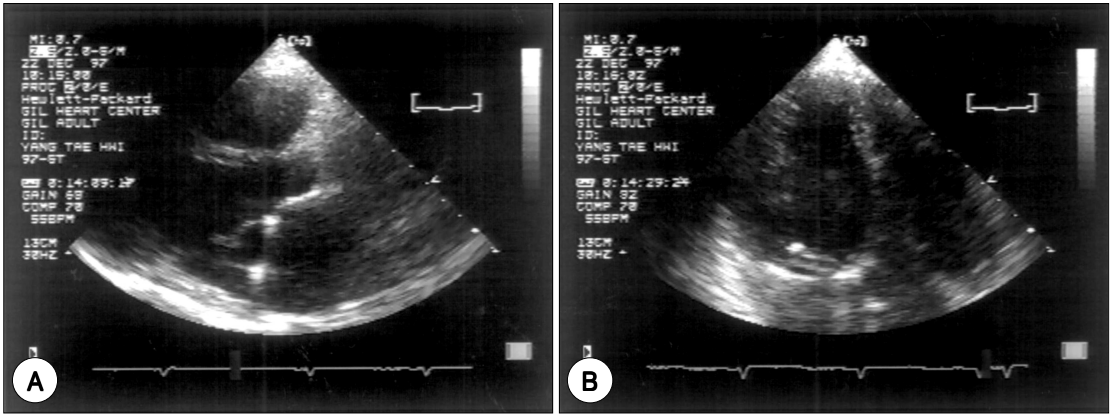


Fig. 2. Post-operative end diastolic parasternal long axis (A) and apical four chamber view (B).

NYHA NYHA
Quality of Life index(QOL) 7 0
30
40 43% , 가
4 가
58% (Table , Left ventricular assistance device
1, Fig. 2). , digitalis ACE inhibitor (LVAD) McCarthy ⁸⁾
고 찰 가 Levin
9)
Frazier ¹⁰⁾ 가
NYHA
1 50% NYHA 1 , 가
30 70% .⁷⁾ 가

가

NYHA

Quality of Life index(QOI)

NYHA

¹¹⁾ Randas J.

V Batista Laplace

(wall tension = pressure × radius/wall thickness × 2)

(wall tension)

() (Circumference) = (Radius) × 3.14

120 가 9 95

Chagas' 가 20%

5 20% , 95%

20%

95%,

70%, 1 60% ,

30%(20 65%) 가 McCarthy

¹²⁾ 32

NYHA 가 50%,

NYHA 가 50% . 100%

84% 1 82% .

15% Cardiac index 2.1

l/min 33% Car -

diac index 2.4 l/min 가 Batista

McCarthy 가 1

NYHA 가 50% 2

5 LVAD Chagas

Takeshida

24

135 ± 95

가

가

¹³⁾ Bocchi 13

(Function class)

¹⁴⁾ Giovanni 11

가 ¹⁵⁾

Contrast cineangiography 50 80%¹⁶⁾

Two-dimensional echocardiography

¹⁷⁾

NYHA , 20%

가 ,

NYHA

NYHA 58%

Donor

가 ,

가

요 약

1

중심 단어 :

REFERENCES

- 1) Braunwald E. *Heart disease. 4th Ed, p1934, Philadelphia, WB saunders;1992.*
- 2) Hurst JW. *The heart. 7th Ed, p1278, New York, Mcgraw-Hill Co;1990.*
- 3) Fucci C, Sandrelli L, Pardini A, Torracca L, Ferrari M, Alfieri O. *Improved results with mitral valve repair using new surgical techniques. Eur J Cardiothorac Surg 1995; 9:621-7.*

- 4) Batista RJV, Santos JVL, Takeshita N, Bocchino L, Lima PN, Cunha MA. *Partial left ventriculectomy to improve left ventricular function in end-stage heart disease. J Card Sur* 1996;11:96-7.
- 5) Batista RJV. *Heart diameter surgery: A new surgical concept in the treatment of end-stage heart disease. In: Abstract of Heart Failure Summit at Cleveland Clinic;1996. p.81.*
- 6) Lim CY, Kim JE, Park KY, Lee HJ, Park CH, Hyun SY, et al. *A case report of left ventricular remodeling surgery on end-stage dilated cardiomyopathy. Korean J Thorac Cardiovasc Surg* 1997;30:613-6.
- 7) Bennett JC, Fred P. *Cecil textbook of medicine. 20th Edition* 1996;1:360.
- 8) McCarthy PM, Nakatani S, Vargo R, et al. *Structural and left ventricular histologic changes after implantable LVAD insertion. Ann Thorac Surg* 1995;59:609-13.
- 9) Levin HR, Os MC, Chen JM, Packer M, Rose EA, Burkhoff D. *Reversal of chronic ventricular dilation in patients with end-stage cardiomyopathy by prolonged mechanical unloading. Ann Thorac Surg* 1996;62:675-82.
- 10) Hetzer R. Discussion. In: *Frazier HO, Benedict CR, Radovancevic B, Bick RJ, et al. Improved left ventricular unloading. Ann Thorac Surg* 1996;62:681.
- 11) Furnary AP, Mariell J, et al. *Multicenter trial of dynamic cardiomyoplasty for chronic heart failure. J Am Coll Cardiol* 1996;28:1175-80.
- 12) McCarthy PM. *Partial ventriculectomy as an alternative to cardiac transplantation. The Cleveland Clinic;1996. p.85-7.*
- 13) Takeshita N, Kawaguchi AT, Lima P, Bocchino L, Verde JL, et al. *Hemodynamic changes in patients undergoing left ventricular diameter reduction (Batista operation). J Am Coll Cardiol;1997. p.64A.*
- 14) Bocchi DA, Moraes AV, Fernando B, Moreira LF, N Stolf. *Clinical outcome after surgical remodeling of left ventricle in candidates to heart transplantation with idiopathic dilated cardiomyopathy. Short-term Results. Circulation* 1997;94(Suppl): -172.
- 15) Bellotti G, Moraes A, Bocchi E, Graziosi P, et al. *Surgical remodeling of the left ventricle in severe dilated cardiomyopathy. Short-term results on geometry and diastolic filling. J Am Coll Cardiol* 1997;29(Suppl A):181A.
- 16) Fauci AS, Braunwald E, Isselbacher KJ, et al. *Principles of Internal Medicine. Harrison's 14th Edition* 1998;1:1248.
- 17) van-Royen-N, Jaffe CC, Krumholz HM, et al. *Comparison and reproducibility of visual echocardiographic and quantitative radionuclide left ventricular ejection fractions. J Am Coll Cardiol* 1996;15:843-50.