

중증의 승모판 협착증환자에서 좌심방압력 측정 시 관찰된 Large V Wave의 의미

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Prominent Large V Wave in Mitral Stenosis and It's Clinical Significance

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ABSTRACT

Background and Objectives : Although a prominent large V wave in left atrial pressure tracing (PVLAP) has been reported to be associated with significant mitral regurgitation (MR) or decreased left atrial compliance (LAC), it is sometimes observed in patients with tight mitral stenosis (MS). The purpose of this study was to determine the prevalence and the hemodynamic significance of PVLAP in tight MS. **Materials and Methods :** Catheterization data before percutaneous mitral balloon valvuloplasty (PMV) were analyzed in 84 consecutive patients and PVLAP was defined as V wave 10 mm Hg higher than mean left atrial pressure (MLAP). **Results :** PVLAP was observed in 45% (38/84) and factors associated with PVLAP were younger age ($p = 0.02$), higher MLAP ($p < 0.01$), higher mitral gradient ($p = 0.04$), smaller valve area ($p = 0.01$) and low echo score ($p = 0.02$); among them MLAP was the only independent factor in multivariate analysis. The presence of PVLAP had no effect on the result of PMV and successful PMV abolished PVLAP. **Conclusion :** PVLAP was observed not infrequently in these selected patients with MS referred for PMV. The presence of PVLAP was not associated with MR and had good correlation with MLAP, which suggest that PVLAP be determined by decreased LAC. (Korean Circulation J 2000;30(2):147-152)

KEY WORDS : Mitral stenosis · Atrial compliance · Left atrial pressure · V wave.

서 론

가

(large V wave)

V wave

(mitral annulus)

가

가

1-7)

: 1999 2 25

: 1999 12 22

: , 138 - 040

388 - 1

large V wave가

8 - 13)

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large V wave

status) (compliance) (volume⁸⁾⁹⁾ Wilkins

large V wave가 . 4가 , 0 4 가 (pressure half¹⁴⁾ time) planimetry , (mean diastolic pressure gradient)

large V adient) .

wave .

color flow map jet gr -

ade 1 4 .

(percutaneous balloon valvuloplasty, PMV)

심도자 및 경피적 풍선성형술¹⁵⁾

PMV 가 ,

7F pigtail catheter

Siemens Recor

449M .

large V wave .

3 , 10

대상 및 방법

Inoue (26 30 mm, Toray Inc. Tokyo, Japan)

연구대상

1996 1 1997 6

가 84

2, 3 .

1.5 cm²

grade 2 , , grade 2

15)

가 23 , Large V wave

가 61 , 가 V wave가 (mean

52 가 32 . left atrial pressure, MLAP) 10 mmHg

(Fig. 1A).⁸⁾⁹⁾

심초음파검사

1 2 1 2 He - 통계 분석

wlett - Packard (SONOS 2500, 2.5 ,

MHz) , SAS 6.12 . Student

(left atrial appendage) t - test chi - square test Large V wave

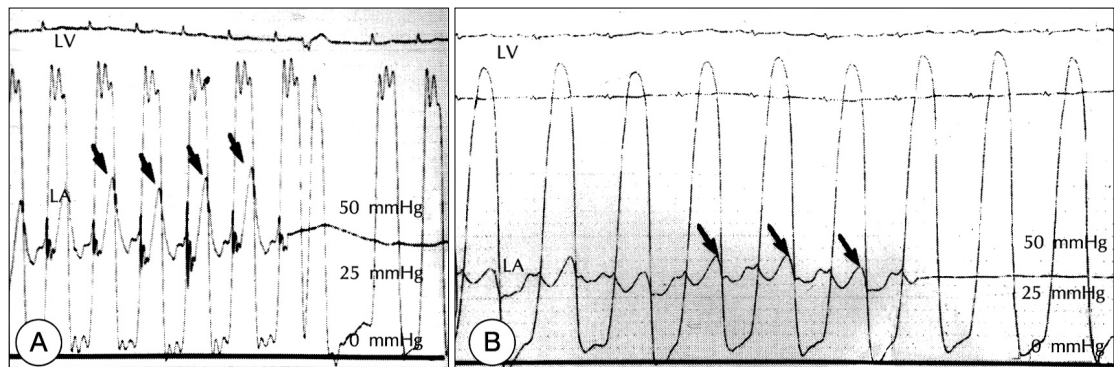


Fig. 1. Left atrial pressure tracing during percutaneous mitral valvuloplasty. A : large A wave (+), B : large V wave (-)

Table 1. Baseline characteristics

	Large V (+)	Large V (-)	p-value
Number	38	46	
M/F	7/31	16/30	NS
Age (year)	40 ± 10	45 ± 11*	0.02
NSR/Af	23/15	29/17	NS
Mr grade 0/ /	24/9/5	22/20/4	NS

NSR : normal sinus rhythm Af : atrial fibrillation
MR : mitral regurgitation

Table 2. Echocardiographic parameters

	Large V (+)	Large V (-)	p-value
LA mean pressure	27 ± 7	17 ± 7	<0.01*
Echo score	7 ± 1.4	8 ± 1.2	0.02
MVA (mean, cm ²)	0.8 ± 0.2	0.9 ± 0.1	0.01
Mitral PG (mean)	15 ± 5	12 ± 5	0.04
PG of TR (mmHg)	39 ± 21	31 ± 16	0.06

*In multivariate analysis, LA mean pressure was the only independent factor

LA : left atrial MVA : mitral valve area
PG : pressure gradient TR : tricuspid regurgitation

가

p - value가 0.05

결 과

Large V wave의 빈도 (Table 1)

84 large V wave 38
46 45% V wave
large V wave
40 ± 10 , 45 ± 11
large V wave가 가 (p
= 0.02). Echo score large V wave 7
± 1 (8 ± 1, p = 0.02).
가 (23/
38 Vs 29/46, p > 0.05).

Large V wave의 혈액학적 의미 (Fig. 2)

large V wave
, echo score,

, large V
wave (p = 0.02),

(p < 0.01), 가 (p = 0.04),
(p = 0.01), echo score가 (p
= 0.02)

(Table
2). large V wave

53 ± 9 mm, 53 ± 7 mm
가 (p > 0.05).
large V wave

가 (Table 1).

좌심방 평균압과 Large V wave와의 관계

Peak V wave
가 (r = 0.96,
p < 0.01, Fig. 3), Peak V wave

(r = 0.65,
p < 0.01, Fig. 4).

208 , large
V wave가 50 18 (36%)
37
16 (43%) large V wave가
large V wave가 가
large V wave
5 ,
3 , 4 ,
2 , 2 .⁸⁾
Snyder 903 large V wave
, 3+
4+ V - wave peak pre -
ssure(>40 mmHg) 가 0.44,
0.94, 0.47, 0.94 , V -
wave 0.66,
0.87, 0.36, 0.96
large V wave가

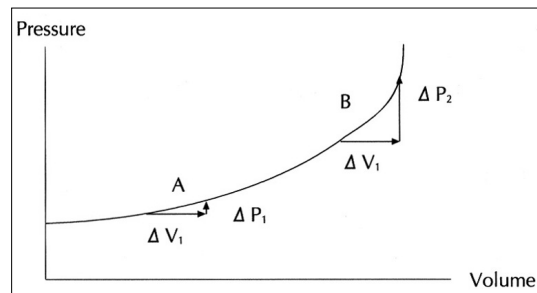


Fig. 5. A diagram showing nonlinear pressure-volume relationship : the amount of increase of pressure with the same increase of volume critically depends on the starting volume status.

.⁹⁾
승모판 협착증에서 V wave의 높이를 결정하는 인자
V wave
, -
가
. (19 - 21)
large V wave
, -
가
V wave
. ⁸⁾
가

Fig. 5
A (preload)가
가
가 B
.
(compliance)가
가

large V wave
V wave가
V wave가
가 가
가 가

본 논문의 문제점

V wave가
가
V wave
가 echo score가

결론 및 임상적 의의

large V wave
가
가
요 약
연구배경 :
large V wave

가 large V wave
가 large V wave
wave
방 법 :
84
결 과 :
1) 84 large V wave
84 45% 38
2) Large V wave가
가 가
(p=0.04), large V wave
(p=0.01),
Echo score large V wave
(p=0.02). 3)
large V wave
, echo score,
가 ,
(p<0.01). 4) Large V wave
결 론 :
large V wave
wave
중심 단어 : Large V wave

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