

## 수술 중 경식도 심초음파 검사의 역할

안경주<sup>1</sup> · 오주현<sup>2</sup> · 이상철<sup>2</sup> · 이상민<sup>3</sup> · 박승우<sup>2</sup>

## The Role of Intraoperative Transesophageal Echocardiography

Kyoung Ju Ahn, MD<sup>1</sup>, Ju Hyeon Oh, MD<sup>2</sup>, Sang-Chol Lee, MD<sup>2</sup>,  
Sang Min Lee, MD<sup>3</sup> and Seung Woo Park, MD<sup>2</sup><sup>1</sup>Department of Internal Medicine, Han-il General Hospital, Seoul, <sup>2</sup>Department of Internal Medicine,<sup>3</sup>Anesthesiology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

## ABSTRACT

**Background and Objectives :** Intraoperative echocardiography (IOE), mostly done by transesophageal methods, provides an important means of accessing cardiac structure and function during cardiac and noncardiac surgery. The purpose of this study was to determine the role of IOE by identifying the frequency of the use of IOE during cardiac surgery, the rate of second pump operations determined by IOE findings, and the results of the operations. **Subjects and Methods :** Sixty-five patients (93 lesions) underwent cardiac surgery with the concomitant IOE done by a cardiologist in a single institution between March 1997 and October 1998. The data was collected retrospectively by reviewing the hospital records and IOE videotapes. **Results :** IOE was applied to 18.9% of total cardiac operations, primarily being used in MV surgery (48.4%). A pre-pump IOE was done in 2 cases and the post-pump procedure was done in the remainder. A second pump operation was performed in 4 cases (6.25%) and all of these were found to be successful after immediate re-operation. **Conclusion :** IOE was primarily used in valve operations, particularly in procedures involving the mitral valve. IOE appears to be useful in determining the immediate results following cardiac surgery and may contribute to determining the prognosis of the patient. (**Korean Circulation J 2002;32(3):251-256**)

**KEY WORDS :** Echocardiography, transesophageal ; Monitoring, intraoperative ; Thoracic surgery.

## 서 론

1972 Johnson<sup>1)</sup>

가

가

2

: 2001 6 13

: 2002 2 6

: 2002 2 15

: , 135 - 710

50

(second pump operation)

: (02) 3410 - 3415 · : (02) 3410 - 3849

E - mail : swpark@smc.samsung.co.kr

## 대상 및 방법

대 상

1997 3 1998 10  
가

방 법

Hewlett - Packard sonos OR model

## 결 과

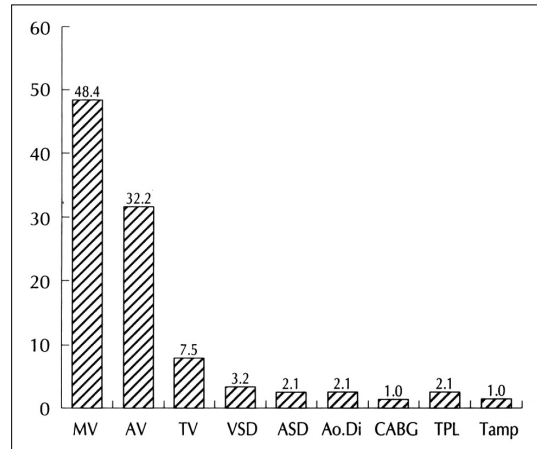
임상적 특징

65 (93 ) 가

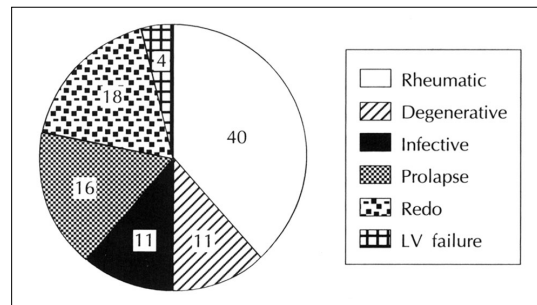
490 93  
(18.9%) 가 39 , 가  
26 50.9 ± 14.4  
25 76

분 류

45 ,  
30 , 7 , 3 ,  
2 , 2 , 2 ,  
1 , 1 (Fig. 1).  
48.4%  
18 (40%) 가 , (redo -  
operation) 8 (18%), 7 (16%),  
5 (11%),  
2 (4%) (Fig. 2).  
30 (66.7%) ( 60%,



**Fig. 1.** Disease categories of operations that underwent intraoperative echocardiography. MV : mitral valve, AV : aortic valve, TV : tricuspid valve, VSD : ventricular septal defect, ASD : atrial septal defect, Ao.Di : aortic disease, CABG : coronary artery bypass graft, TPL : cardiac transplantation, Tamp : cardiac tamponade.



**Fig. 2.** Etiologic diagnoses of mitral valvular diseases that underwent operation with intraoperative echocardiography.

6.6%) 15  
(33.3%)  
(7 ) (2 )  
(5 4 ), (5 1 ),  
(18 1 )  
32.2%  
14 (46%) 가 , 5 (17%),  
(redo - operation) 4 (13%), 3 (10%),  
2 (7%) (Fig. 3).  
28 (93.3%)가  
( 83.3%, 10%)  
2 (6.7%)



**Fig. 3.** Etiologic diagnoses of aortic valvular diseases that underwent operation with intraoperative echocardiography.

## 고 찰

1972 Johnson <sup>1)</sup>  
M

가 1982 Kremer <sup>2)</sup>

1987 de

Bruijn <sup>3)</sup> Kyo <sup>4)</sup> color flow

<sup>5)</sup>

(bypass pump)

가 (pre - pump) 가  
(post - pump) 가

7.5% 7 2 3  
1 , 2  
2  
160 1  
가  
65 가  
가 2 1 ,  
1  
가 63  
가 가

## 결 과

2  
(second pump operation) 4  
6.25%  
(double valve replacement)  
(paravalvular leakage) 1 ,  
(non coronary cusp)  
1 , 가  
1 , 가 가  
(bicuspid aortic valve)

0.76 cm<sup>2</sup> 2  
1.6 가  
cm<sup>2</sup> 1 2 가 가



가  
,  
,  
,  
,  
,  
가  
,  
가  
(contrast echocardiography)

160

6.25%

가

## 요 약

배경 및 목적 :

방 법 :

1997 4 1998 10  
65 (93 )  
, 2

결 과 :

18.9%

(48.4%).

가 , 2  
(second pump operation) 4 (6.25%)

결 론 :

중심 단어 : ; ;

1998 42

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