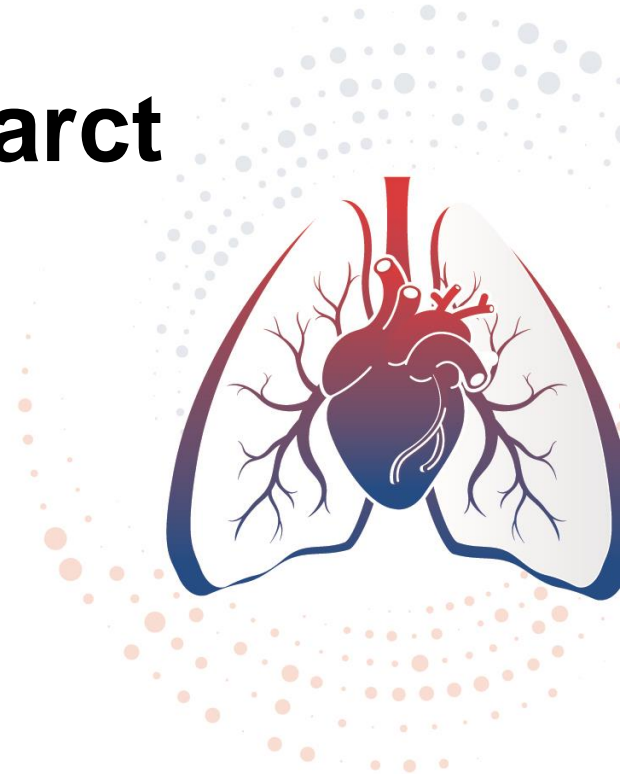


2023 대한심장혈관흉부외과학회

제55차 추계학술대회 & APELSO 2023

2023. 11. 02 (Thu) - 11. 04 (Sat), 그랜드 인터컨티넨탈 파르나스 서울

Delayed repair strategy in Post infarct Ventricular septal defect



- A rare but frequently fatal complication; less than 1% of patients suffering MI
- 2~4 days after MI [range; several hours – several weeks]
- Medical therapy alone: mortality rates exceed 90%
- Surgical repair: mortality ranges between 19% and 60%
- **Timing of surgery** is known to greatly influence the prognosis
- The domestic research reports are still insufficient
- We conducted this study to investigate the utility and outcomes of the **delayed repair strategy in Post MI VSD**

- Before 2019: Surgical timing was determined by each surgeon's preferences
- After 2019: : **delayed repair strategy**

#Delayed repair strategy

- More than one weeks from event day
- If necessary, ECMO support → prevention of MOF
- If possible, concomitant surgeries as well
- Mainly, two patches infarction exclusion technique
- However, always consider individualized approaches for each patient

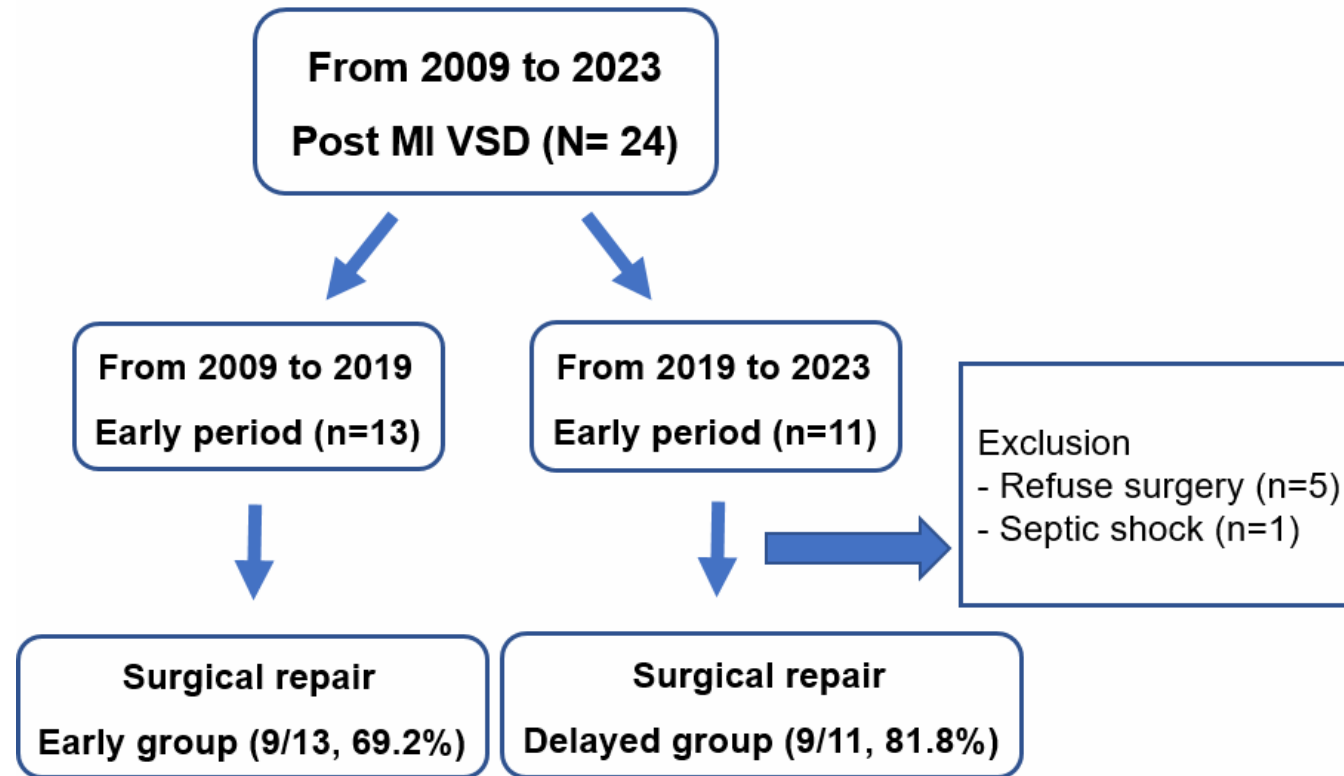


Table 1. Baseline characteristics

Variables	Early group (n = 9)	Delayed group (n = 9)	p-value
Male	4 (44.4%)	4 (44.4%)	>0.99
Age	70.7 ± 7.8	69.7 ± 11.5	0.832
CVA	1 (11.1%)	0	>0.99
Involved vessel			0.471
- LAD	8 (88.9%)	7 (77.8%)	
- LCX	1 (11.1%)	0	
- RCA	0	2 (22.2%)	
Admission to surgery, days	4.0 [1.0; 8.0]	10.0 [5.0;11.0]	0.101
Event(MI) to surgery, days	11.0 [8.0;25.0]	13.5 [10.0;22.5]	0.736
Mechanical support			0.456
- ECMO	2 (22.2%)	5 (55.6%)	
- IABP	1 (11.1%)	1 (11.1%)	
ECMO duration, days	8.0 ± 4.2	9.0 ± 4.3	0.792

Variables	Early group (n = 9)	Delayed group (n = 9)	p-value
Hemodialysis	0	1 (11.1%)	0.430
LVEF, %	42.0 ± 11.1	45.2 ± 8.0	0.489
Hemoglobin	11.5 ± 2.0	10.0 ± 1.5	0.103
Bilirubin	0.8 [0.8; 1.0]	0.9 [0.8; 1.2]	0.500
Albumin	3.4 [3.1; 3.7]	3.0 [3.0; 3.5]	0.307
CRP	2.9 [1.0; 6.8]	4.2 [3.9; 5.2]	0.481
BNP	933 [165;2051]	1833 [1042;3572]	0.258
Euroscore II	11.5 [4.0;24.2]	19.8 [10.7;28.0]	0.340
Concomitant surgery	1 (11.1%)	7 (77.8%)	0.015
-CABG	1(11.1%)	4 (44.4%)	
-Others	0	3 (33.3%)	
CPB Time, min	173.3 ± 30.5	108.6 ± 31.8	< 0.001
ACC Time, min	120.0 [103.0;123.0]	84.0 [75.0;88.0]	0.008



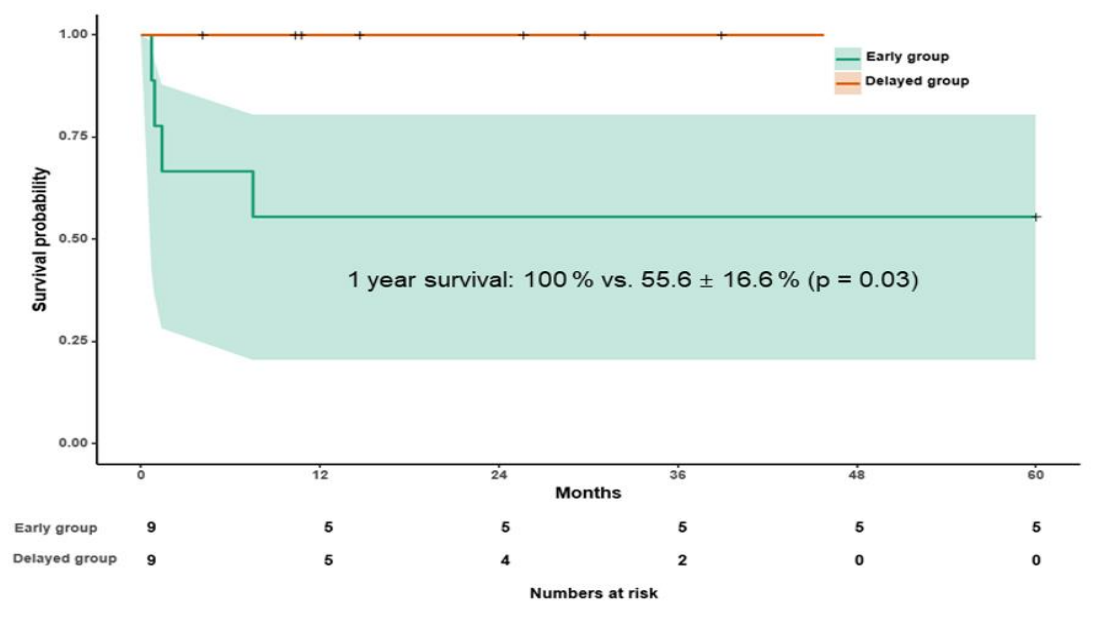
Table 2. Early postoperative outcomes

Variables	Early group (n = 9)	Delayed group (n = 9)	p-value
ICU Stay, hours	395.7 ± 346.4	120.9 ± 153.1	0.052
VIS Immediate	16.5 [12.0;26.0]	15.0 [8.0;20.0]	0.691
VIS 6hr	22.0 ± 12.3	18.3 ± 13.0	0.552
VIS Peak within 24 hours	43.0 [28.0;60.5]	32.5 [17.0;35.0]	0.269
Postoperative ECMO			>0.99
- VA ECMO	1 (11.1%)	1 (11.1%)	
- VV ECMO	1 (11.1%)	0	
Atrial fibrillation	1 (11.1%)	1 (11.1%)	>0.99
Ventricular tachycardia	1 (11.1%)	1 (11.1%)	>0.99
Prolonged ventilation > 48hours	8 (88.9%)	2 (22.2%)	0.015
Tracheostomy	1 (11.1%)	0	>0.99
New onset dialysis	5 (55.6%)	1 (11.1%)	0.131
CVA	2 (22.2%)	0	0.471
Reoperation bleeding	0	0	

Table 3. Follow-up outcomes

Variables	Early group (n = 9)	Delayed group (n = 9)	p-value
Early death within 30 days	2 (22.2%)	0	0.471
Follow-up duration, months	63.3 ± 66.1	21.3 ± 14.7	0.096
Additional death	2 (22.2%)	0	
LVEF at last follow-up	44.3 ± 11.3	47.7 ± 11.9	0.598

Figure 1. Survival curve



- The delayed repair strategy allows for securing solid and matured tissue in patients with Post MI VSD
- In this strategy, the tissue is well demarcated, making repair easier and allowing for a reduction in surgical time
- A precise and well-planned surgery is possible, and the complexity of the operation is reduced, alleviating concerns about concomitant surgery
- In this study, the delayed repair strategy showed very good early and long-term outcomes