

Annual Report of Cardiovascular Surgery 2025

Nagasaki University

2025.1.1 ~ 2025.12.31

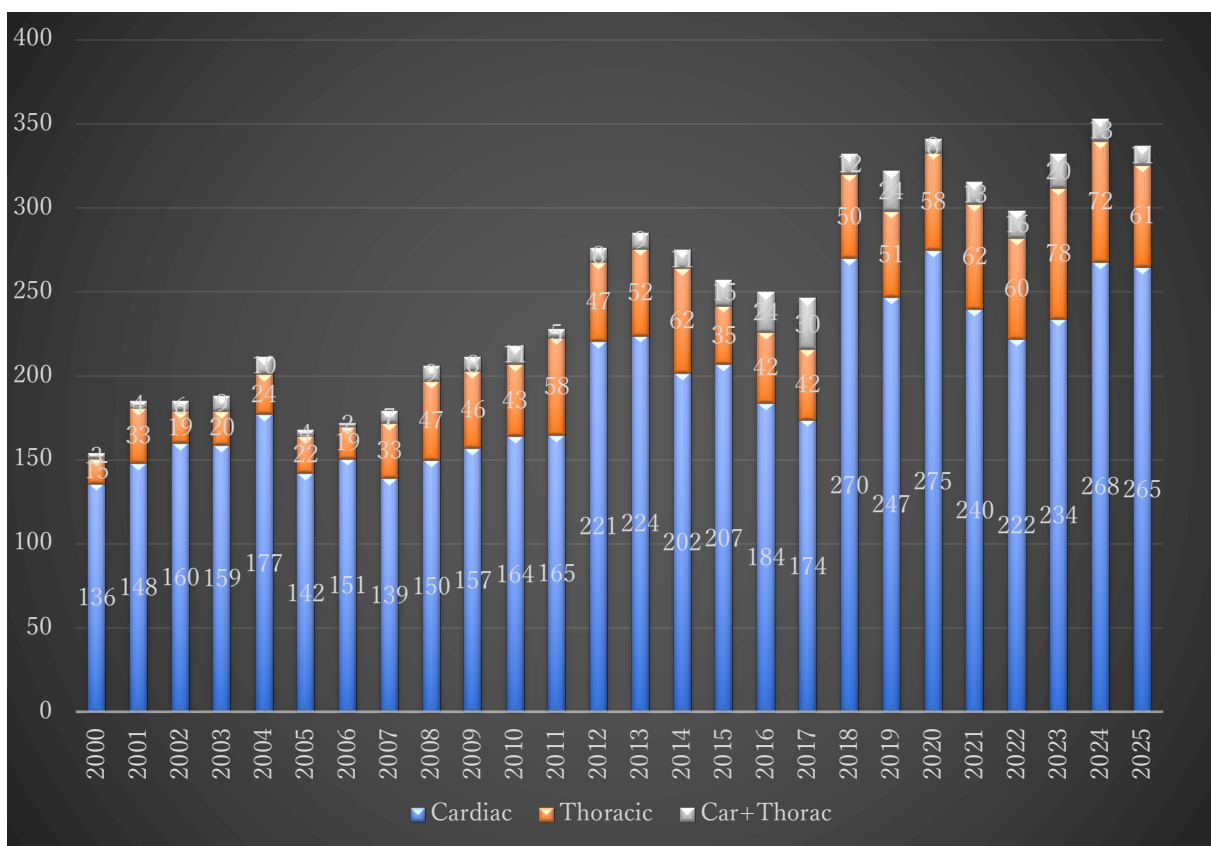
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~ Overall~

I . Number of Operations and Surgical mortality

Division	No. OP.	Operative mortality (%)	Hospital mortality (%)
Cardiac	265 (78*)	2 (0.8)	2 (0.8)
Car. + Thoracic	11	0	0
Thoracic	61	2 (3.3)	3 (3.3)
Total	337 (78*)	4 (1.2)	5 (1.5)
Abdominal aorta	50	1 (2.0)	1 (2.0)
Peripheral	27	0	0
Total	414 (78*)	5 (1.2)	6 (1.4)

*TAVI

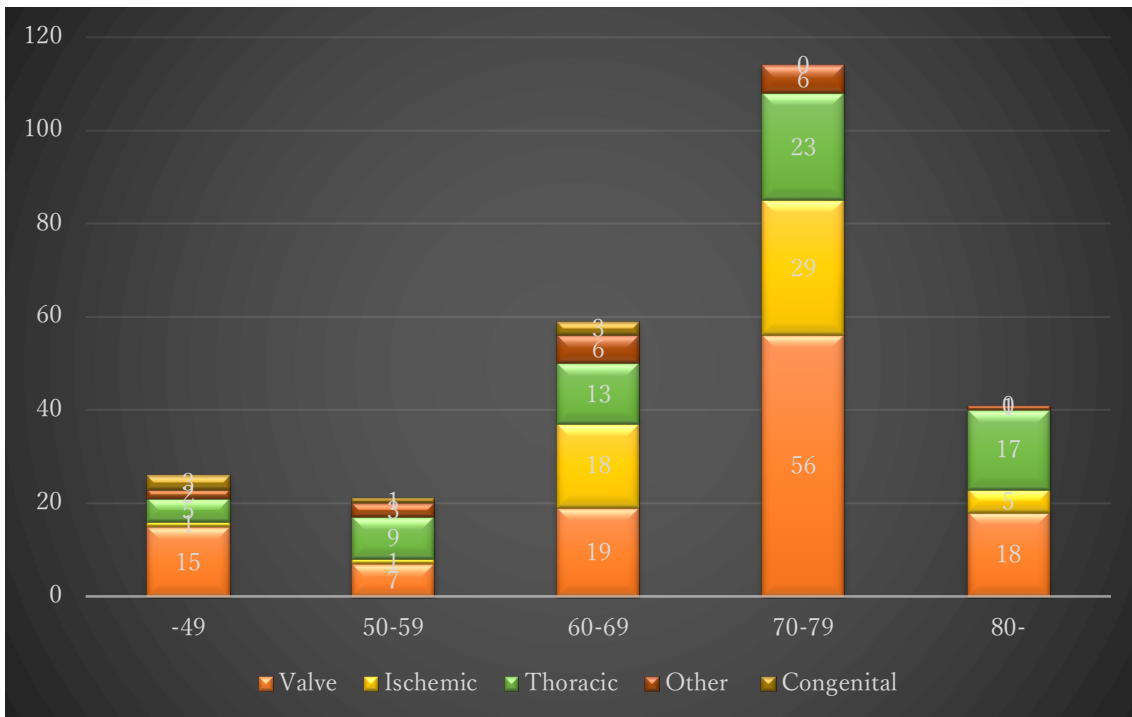


II. Mode of Operation

	Total	Scheduled (%)	Urgent (%)	Emergent (%)
Ischemic	54	38 (70.4)	9 (16.7)	7 (13.0)
Valvular	188 (78*)	176 (93.6)	9 (4.8)	3 (1.6)
Congenital	7	7 (100)	0	0
Others	20	10 (50.0)	3 (15.0)	7 (35.0)
Thoracic aorta	68	28 (41.2)	3 (4.4)	37 (54.4)
Abdominal aorta	50	41 (82.0)	1 (2.0)	8 (16.0)
Peripheral artery	27	7 (25.9)	3 (11.1)	17 (63.0)
Total	414 (73*)	307 (74.2)	28 (6.8)	79 (19.1)

*TAVI

III. Age Distribution



TAVI excluded

~ Summary of Cardiovascular Division ~

I . Number of Operations and Surgical Mortality

	No. OP.	No. Cases
<u>Cardiac</u>		
Valvular	209 (78*)	209 (78*)
(redo)	(13)	(13)
Ischemic	77	77
(redo)	(0)	(0)
Congenital	12	12
Others	48	48
<u>Vascular</u>		
Thoracic aorta	77	77
(TEVAR)	(10)	(10)
(redo)	(3)	(3)
Abdominal aorta	51	51
(EVAR)	(16)	(16)
Peripheral artery	28	28

*TAVI

Concomitant Procedure

Valvular (only): 61 cases	Valvular + Thoracic aorta: 18 cases
CABG (only): 42 cases	Valvular + Congenital: 5 cases
Congenital (only): 5 cases	Valvular + Others: 28 cases
Others (only): 28 cases	CABG + Thoracic aorta: 6 cases
Thoracic aorta (only): 28 cases	CABG + Others: 5 cases
Valvular + CABG: 18 cases	Thoracic Extra: 1 case
Valvular + + CABG + Others: 4 cases	Congenital + Others: 1 case
Valvular + Thoracic aorta + CABG: 1 case	
Valvular + Congenital + Others: 1 case	

II . Valvular Heart Disease

	No. OP.	No. Cases	OP mortality	Hospital mortality
Aortic *	141 (78*)	141	0	0
Mitral	32	32	1#4	1#4
Tricuspid	4	4	0	0
Pulmonary	1	1	0	0

Combined				
A+M *	3	3	0	0
M+T	19	19	0	0
A+M+T *	8	8	0	0
A + P	1	1	0	0
Total	209	209	1 (0.5)	1 (0.5)

* AVR 57, Bentall 5, Reimplantation 10 (+AVP 5), Total Root Remodeling (sleeve) 2, TAVI 78 (DA 1), Park's stitch 1

a) Mitral valve disease

Diagnosis

MR	MS / MSR	Total	MVR (%)	Repair (%)
59	5	64	10 (15.6)	54 (84.4)

b) Mitral valve repair

Etiology, n (%)

Congenital	Infectious	Degenerative	Rheumatic	Ischemic	Tethering	Others
2 (3.4)	3 (5.1)	43 (72.9)	3 (5.1)	3 (5.1)	0	5 (8.5)

Postoperative follow-up

Jet area	Intraoperative n = 54	At discharge, n=54	Follow up
None to trivial (0-2cm ²)	48	47	15
Mild (2-4cm ²)	6	7	2
mild to moderate, (4-8cm ²)	0	0	0
moderate to severe, (8cm ² -)	0	0	0

c) Valve substitutes implanted

	Mechanical	Tissue	Total
AVR	9	131 (73*)	140 (73*)
MVR	2	8	10
PVR	0	1	1
Total	11	140 (73*)	151 (73*)

*TAVI

d) Minimally invasive cardiac surgery

Procedures	No. Op.
MP*	20 (2)
MVR	1
AVR	5
ASD/PFO	6
LA mass/ thrombus	1
MICS CABG	4
Total	37 (2)

() Robo

MP isolated (\pm Maze, LAAP) 17, MP+TAP (\pm Maze, LAAP) 2
 MP + TAP +ASD closure 1

III. Ischemic heart disease

	Total	Isolated CABG
SVD	20	3
DVD	19	9
TVD	34	21
LMT	4	3
Total	77	36

Conventional CABG: 58 cases

Off pump CABG: 7 cases

On pump beating CABG: 12 cases

a) Conduit 2.4 / patient

	ITA	SVG	GEA	Cases
SVD	8	13	0	20
DVD	16	25	0	19
TVD	45	62	1	34
LMT	6	6	0	4
Total	75	106	1	182 / 77 cases

b) Anastomoses (Distal site) 2.5 / patient

No. Anastomoses	No. Cases (%)
1	20 (26.0)
2	14 (18.2)
3	28 (36.4)
4	14 (18.2)
5	1 (2.0)
Total Cases	77
Total anast.	193

b) Anastomoses

No. Anastomoses	1	2	3	4	5	No. OP.
SVD	18	2	0	0	0	20
DVD	1	11	7	0	0	19
TVD	1	0	20	12	1	34
LMT	0	1	1	2	0	4
Total cases	20	14	28	14	1	77
Total anast.	20	28	84	56	5	193

d) Graft patency

	No. of grafts	Examined	Patent	Patency Rate (%)
<u>Artery</u>	76			
LITA	60	56	56	100
RITA	15	14	14	100
<u>SVG</u>	106	95	95	100
Total	182	165	165	100

IV. Congenital heart disease

	No. Cases	No. OP.
ASD/PFO	10	10
VSD	1	1
PDA	1	1
Total	12	12

V. Others

	No. OP.	No. Cases	Mortality
Cardiac tumor	4	4	0
Thrombus/ CAT	1	1	0
Surgical ventricular repair (VSP)	2	2	1 #3
Bleeding (LV rupture)	4	4	0
Morrow / Myectomy	12	12	0
LAAP	23	23	0
Pulmonary endarterectomy	2	2	0
Other	21	21	0
Total	84	84	1 (1.2)

VI. Maze operation

	Device	SR recover / Total cases
Full Maze*, n = 11	cryo-ICE	8 / 11 (72.7)
LA Maze**, n = 9	cryo-ICE	7 / 9 (77.8)
VT ablation	cryo-ICE	1 / 1
Total, n = 21		16 / 21 (76.2)

VII. VAD HeartMate III

	No. OP.	No. Cases	Operative mortality	Hospital mortality
Total	3	3	0	0

VIII. Vascular disease

a) Replacement site (Thoracic)

	No. OP.	No. Cases
Root	5	5
Ascending aorta	9	9
Hemiarch	18	18
Total arch	29	29
Descending aorta	11	11
(Stent graft)	(8)	(8)
Thoracoabdominal aorta	3	3
Total	75	75

b) Classification of Thoracic aorta

	No. Cases	Hospital mortality
<u>Dissection</u>		
Acute	37	2
I	20	1 ^{#1}
II	14	1 ^{#6}
IIIa	0	0
IIIb	3	0
Chronic	5	0
I	1	0
II	1	0
IIIb	3	0
<u>True</u>		0
Root	4	0
Ascending	6	0
Arch	15	1 ^{#5}
Descending	10	0
Thoracoabdominal	4	0

Operation method	
Root replacement	17
Bentall	5
Isolated	2
+ Ascending	1
+ MP + TAP + Maze	1
+ MP + TAP + LAAP + CABG	1
Reimplantation (David)	10
Isolated	2
+ TAR	3
+ AVP +Maze + LAAC	1
+ PVR	1
+ Ascending	1
+ TAP + CABG	1
+ MP	1
Total Root Remodeling (Sleeve)	2
Ascending aorta replacement	10
Hemiarch replacement	18
Total arch replacement (TAR)	15
Descending aorta replacement	3
Thoracoabdominal aorta replacement	3
TEVAR (Debranch TEVAR)	10 (3)

c) Classification of Abdominal aorta, peripheral artery

	No. OP.	No. Cases	mortality (%)
Abdominal aorta	51	51	1#2
(EVAR)	(25)	(25)	0
Peripheral artery	28	28	0
Total	79	79	1 (1.3)

	No. Cases	Hospital mortality	Operation method	
<u>Abdominal aorta</u>	51	1#2		
AAA	50	0	Graft replacement	26
Impending rupture	1	0	EVAR	25
Ruptured	5	1		
Others	1	0		
<u>Peripheral artery</u>				
ASO	4	0	Thrombectomy	11
Acute arterial occlusion	11	0	Bypass grafting	4
Aneurysm	6	0	Plasty	9
Traumatic	1	0	Resection	1
Others	7	0	Others	4

~ Summary of hospital death ~

No	Age	Gender	Dx	Emergency	Risk factors	
			Operation procedures	POD	Autopsy	Cause of death
1	54	M	AADA, AMI		Emergency	AMI
			TAR, CABG-1	18	Not done	LOS, MOF
2	84	F	AAA rupture,		Emergency	Redo, p/o EVAR, grafting shock
			EVAR	13	Not done	DIC, MOF
3	86	F	VSP		Emergency	AMI, shock, Impella
			VSP closure, CABG-1	18	Not done	LOS, MOF
4	72	F	MS, TR, HOCM		Elective	Severe MAC, SLE
			MVR, TAP, Myectomy, LAAC	17	Not done	LV rupture, LOS, MOF
5	80	F	TAA		Elective	Redo, APS(APTT)
			TAR	34	Not done	Cerebral bleeding
6	82	M	AADA		Emergency	High age, COPD
			PAR	30	Not done	peritonitis , sepsis

各種データの解釈

- 1) OP mortality: 術後 30 日以内全死亡。Hospital mortality: 術後院内全死亡。
- 2) Mode of Operation: 二つ以上のカテゴリーを含む手術は主病変と考えられるいずれかのカテゴリーに分類。
- 3) Number of Operations and Surgical : 各手術手技の延べ数を合算。
例: CABG+MP+As.Ao.置換→Ischemic, Valvular, Thoracic aorta のそれぞれに加算。
Bentall1, Reimplantation→ Valvular, Thoracic aorta のそれぞれに加算。
- 4) Valvular Heart Disease: 弁に対する操作を行った (付加手術の有無にかかわらず)症例数、手術数を計算。
- 5) Ischemic Heart Disease: CABG を行った (付加手術の有無にかかわらず)症例数を計算。
- 6) Vascular Disease: Bentall, Reimplantation は Replacement site を新たに Root に分類。ただし Reimplantation+Total Arch Replacement でも Root とする。(2013～)
- 7) Graft patency : 冠動脈 CT による評価が増加したため、分類を Patent, Stenosis (含:occlusion)とした。(2014～)
- 8) MVR 術後の perivalvular leakage 症例に対する修復術は術式を Repair とし、Etiology を Other とした。
- 9) 2016 年の TAVI 開始ともない、TAVI Transfemoral approach, Transapical approach のいずれも Cardiac, Valvular, Tissue valve としてカウントした。
- 10) TRR は Cardiac/Valve/Aortic に分類した。(2017～)
- 11) Number of Operations and Surgical (各手術手技の延べ数)における死亡率算出の対象から、心肺停止蘇生後や PCPS を要するような重症心不全症例、術中の予期しない冠動脈閉塞に対する追加バイパス術などの Salvage 手術を除外した。なお、Mode of Operation (主たる手術をカウント、重複なし)では従来通り全ての死亡症例を含んで算出した。(2019～)
- 12) Number of Operations and Surgical における死亡数の欄に死亡症例の通し番号を追記した。(2019～)