

*Annual Report of Cardiovascular Surgery 2013*  
*Nagasaki University*

*2013.1~2013.12*

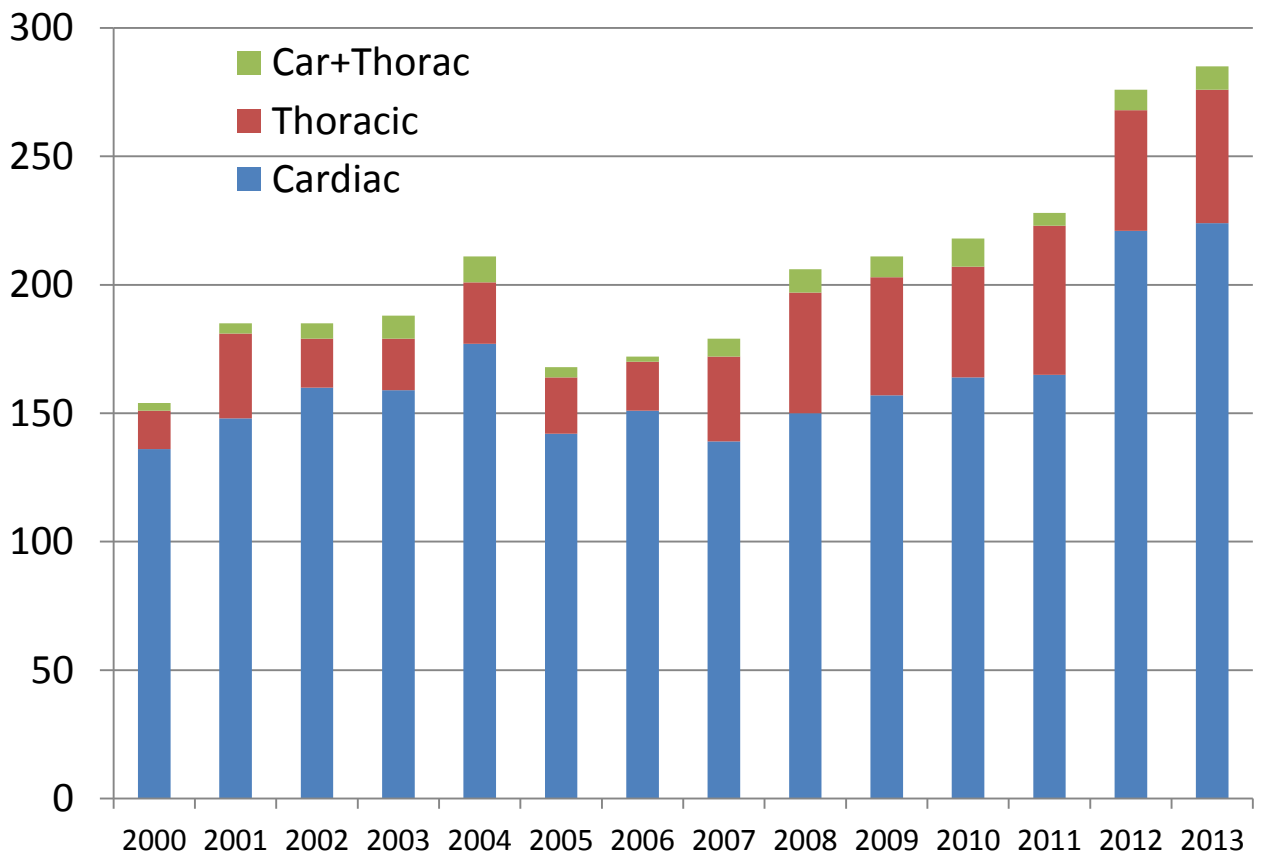
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~Overall~

I . Number of Operations and Surgical mortality

Division	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
<b>Cardiac</b>	221	224	2(0.9)	4(1.8)
<b>Thoracic</b>	51	52	1(2.0)	1(2.0)
<b>Car. + Thoracic</b>	9	9	0	0
<b>Total</b>	281	285	3(1.1)	5(1.8)
<b>Abdominal aorta</b>	46	47	3(6.4)	3(6.4)
<b>Peripheral artery</b>	25	26	0	0

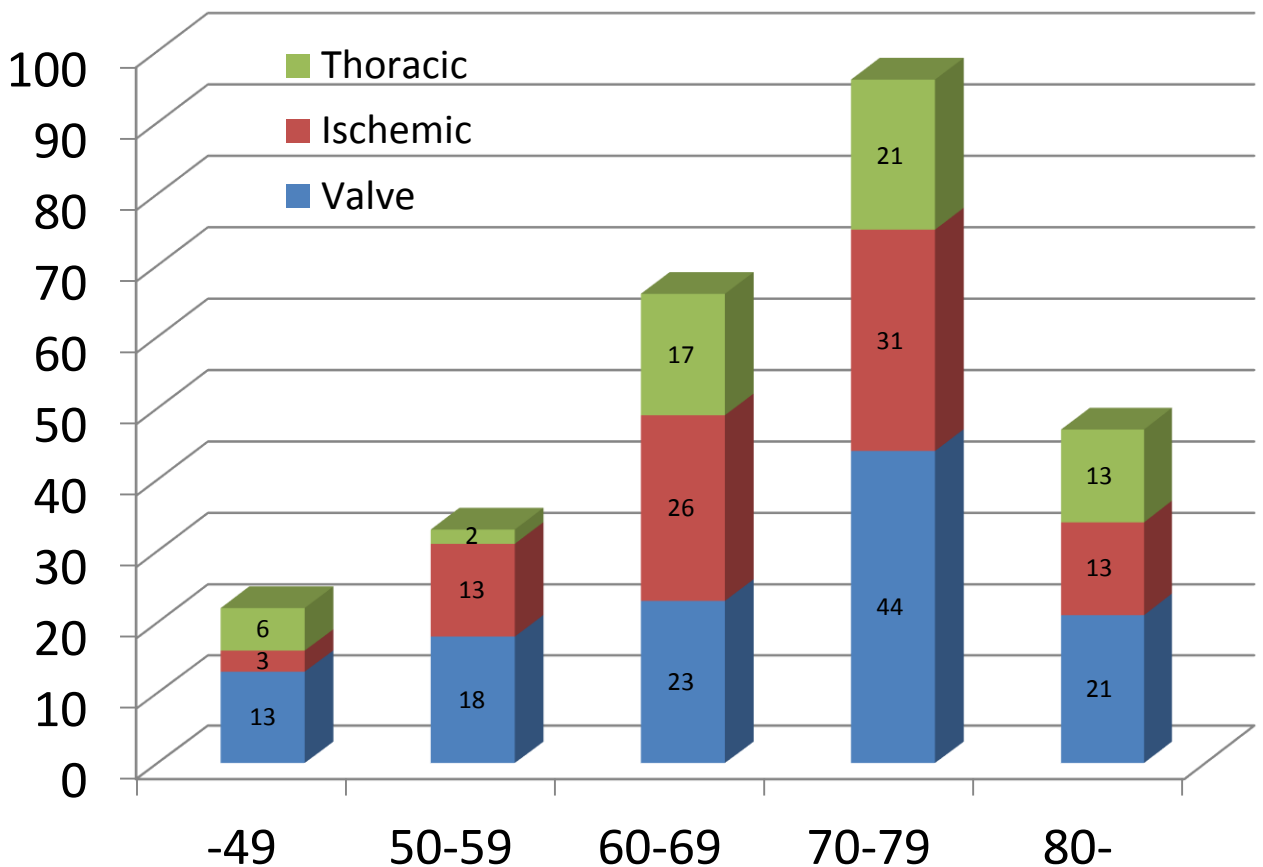
Operations



## II. Mode of Operation

	total	Scheduled (%)	Urgent (%)	Emergent (%)
Ischemic	86	71(82.6)	9(10.4)	6(7.0)
Valvular	123	115(93.4)	4(3.3)	4(3.3)
Congenital	6	5(83.3)	1(16.4)	0
Others	10	6(60.0)	2(20.0)	1(10.0)
Thoracic aorta	60	34(56.7)	3(5.0)	23(38.3)
Abdominal aorta	47	40(85.1)	0	7(14.9)
Peripheral artery	26	14(53.8)	2(7.7)	10(38.5)
<b>Total</b>	<b>358</b>	<b>285 (79.6%)</b>	<b>21(5.9%)</b>	<b>52(14.5%)</b>

## III. Age Distribution



~Summary of Cardio-Vascular Division~

I . Number of Operations and Surgical Mortality

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
<b>Cardiac</b>				
Valvular (redo)	131 (5)	134	1(0.8)	2(1.5)
Ischemic (redo)	94 (1)	94	2(2.1)	3(3.2)
Congenital	7	7	0	0
Others	12	12	0	0
<b>Vascular</b>				
Thoracic aorta (redo) (Stent graft)	61 (8) (12)	62	1(1.6)	1(1.6)
Abdominal aorta (Stent graft)	46 (19)	47	3(6.4)	3(6.4)
Peripheral artery	25	26	0	0

**Concomitant Procedure**

Valvular(only): 111 cases

CABG(only): 80 cases

Congenital (only): 6 cases

Others: 10 cases

Thoracic aorta(only): 51 cases

Valvular + CABG: 12 cases

Valvular + Thoracic aorta: 10 cases

Valvular + Congenital: 1cases

Valvular + Others: 1 cases

CABG + Thoracic aorta: 1 cases

CABG + Others: 1 case

## II. Valvular Heart Disease

	No. Cases	No. OP.	OP mortality (%)	Hosp. mortality (%)
<b>Aortic *</b>	64	64	0	1(1.6)
<b>Mitral</b>	49	52	0	0
<b>Tricuspid</b>	1	1	0	0
<b>Pulmonary</b>	0	0	0	0
<b>Combined</b>				
<b>A+M</b>	6	6	1(16.7)	1(16.7)
<b>M+T</b>	9	9	0	0
<b>A+M+T</b>	2	2	0	0
<b>Total</b>	131	134	1(0.7)	2(1.6)

\* Bentall 2 cases, 大動脈基部形成(Reimplantation) 3 cases, 大動脈弁形成術 6 cases

### a) Mitral valve disease

Diagnosis

MR	MSr	MsR	MS	MSR	Total		MVR (%)	Repair (%)
60	0	0	6	3	69		11 (15.9%)	58 (84.1%)

### b) Mitral valve repair

Etiology

Congenital	Infectious	Degenerative	Rheumatic	Ischemic	DCM	Other
1	9	36	2	3	6	1

Post ope. follow up

Jet area	No. Op.	Post ope. (discharge)	Follow(~12M)
non to trivial (0-2cm <sup>2</sup> )	58	51	38
mild (2-4cm <sup>2</sup> )	0	4	3
mild to moderate (4-8cm <sup>2</sup> )	0	0	1
moderate to severe (8cm <sup>2</sup> -)	0	1	3

**c) Valve Substitutes implanted**

**73 Prostheses**

	<b>Mechanical</b>	<b>Tissue</b>	<b>Total</b>
<b>AVR</b>	<b>19</b>	<b>43</b>	<b>62</b>
<b>MVR</b>	<b>8</b>	<b>3</b>	<b>11</b>
<b>TVR</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>PVR</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>27(37.0)</b>	<b>46(63.0)</b>	<b>73</b>

**d) Minimally Invasive Cardiac Surgery**

<b>Procedures</b>	<b>Case</b>
<b>MP*</b>	<b>24</b>
<b>MVR</b>	<b>2</b>
<b>ASD/PFO</b>	<b>4</b>
<b>LA mass/ thrombus</b>	<b>2</b>
<b>Total</b>	<b>32</b>

**\*)MP isolated 22, MP+ASD 1, MP+TAP 1**

### III. Ischemic Heart Disease

	Total	Isolated CABG	OP. mortality(%)	Hosp. mortality(%)
SVD	6	4	0	0
DVD	18	14	1	1
TVD	50	42	1	1
LMT	20	20	0	1
<b>Total</b>	<b>94</b>	<b>80</b>	<b>2(2.1)</b>	<b>3(3.2)</b>

Off pump CABG : 26ases

On pump beating CABG : 5cases (1 case converted from Off pump)

a) Conduit

230 ( 2.5 / patient )

	Artery	SVG	Cases
SVD	5	2	6
DVD	18	16	18
TVD	69	25	50
LMT	26	69	20
<b>Total</b>	<b>118</b>	<b>112</b>	<b>94</b>

b) Anastomoses

247 ( 2.6 /

patient )

b') Anastomoses by OPCAB

53 ( 2.0 / patient )

No. Anastomoses	No. Cases (%)
1	13(13.8)
2	28(29.8)
3	37(39.4)
4	13(13.8)
5	3(3.2)
<b>Total Cases</b>	<b>94</b>
<b>Total anast.</b>	<b>247</b>

No. Anastomoses	No. Cases (%)
1	7(27.0)
2	11(42.3)
3	8(30.7)
4	0
5	0
<b>Total Cases</b>	<b>26</b>
<b>Total anast.</b>	<b>53</b>

c) Anastomoses

No. Anastomoses	1	2	3	4	5	No. OP.
SVD	5	1	0	0	0	6
DVD	4	11	2	1	0	18
TVD	3	9	26	9	3	50
LMT	1	7	9	3	0	20
<b>Total</b>	13	28	37	13	3	94
<b>Total anast.</b>	13	56	111	52	15	247

d) Graft patency

	Anastomoses	Examined	Patent	Rate**	Stenosis*	Rate***
SVG	112	91	86	94.5	5	94.5
Artery	118	81	79	97.5	4	95.1
LITA	81	58	56	96.5	3	94.8
RITA	32	21	21	100	1	95.2
GEA	5	2	2	100	0	100
RA	0	0	0	0	0	0
<b>Total</b>	348	253(70.6%)	244	95.6 (%)	13	94.0 (%)

Intervention : 3 cases

\*Stenosis :  $\geq 90\%$   
 \*\*patency rate (excl.stenosis)  
 \*\*\* patency rate (incl.stenosis)



#### IV. Congenital Heart Disease

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
ASD	5	5	0	0
VSD	1	1	0	0
PDA	0	0	0	0
VSA(Valsalva)	1	1	0	0
<b>Total</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0</b>

#### V. Others

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
Cardiac tumor	2	2	0	0
Thrombus/ CAT	4	4	0	0
Surgical ventricular repair	2	2	0	0
VAS implantation	0	0	0	0
Bleeding	1	1	0	0
Others	3	3	0	0
Accessory Mitral Valve 1				
PA dissection 1				
SVC occlusion 1				
<b>Total</b>	<b>12</b>	<b>12</b>	<b>0</b>	<b>0</b>

#### VI. Maze operation

	No. Cases	Sinus recovery	(%)
Cryoablation	13	5	38.4
PV isolation	2	0	0
<b>Total</b>	<b>15</b>	<b>5</b>	<b>33.3</b>

## VII. Vascular Disease

### a) Replacement site

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
<b>Thoracic</b>				
Root	5	5	0	0
Ascending aorta	13	13	0	0
Hemiarch	0	0	0	0
Total arch	19	19	1(5.2)	1(5.2)
Descending aorta (Stent graft)	20 (11)	20 (11)	0 0	0 0
Thoracoabdominal Ao.	5	5	0	0
<b>Total</b>	<b>62</b>	<b>62</b>	<b>1(1.6)</b>	<b>1(1.6)</b>

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
<b>Abdominal aorta</b>				
(Stent graft)	46 (19)	47 (19)	3(6.5) 0	3(6.5) 0
Peripheral artery	25	26	0	0
<b>Total</b>	<b>71</b>	<b>73</b>	<b>3(4.2)</b>	<b>3(4.2)</b>

## b) Classification of Thoracic aorta

	No. Cases	Hosp. mortality (%)	Operation method	
<b>Dissecting</b>	21	1 (1.9)		
<b>Acute</b>	17	1 (5.9)	Root replacement (Bentall 1)	1
<b>I</b>	13	1 (7.7)	Ascending aorta replacement	9
<b>II</b>	3	0	Total arch replacement(+Descending)	7
<b>IIIa</b>	1	0	Stent Graft	0
<b>IIIb</b>	0	0		
<b>Chronic</b>	6	0	Total arch replacement	2
<b>I</b>	0	0	Descending aorta replacement	2
<b>II</b>	0	0	Stent graft	2
<b>IIIa</b>	0	0		
<b>IIIb</b>	6	0		
<b>True</b>	41	0		
<b>Ascending</b>	8	0	Root replacement	4
<b>Arch</b>	10	0	(Bentall 1/ Reimplantation (+HAR/	
<b>Descending</b>	16	0	+TAR) 3)	
<b>Thoracoabdominal</b>	5	0	Ascending aorta replacement(+AVR/+AVP)	4
			Total arch replacement(+CABG/+AVP)	9
			Descending aorta replacement	7
			Stent graft	8
			Stent graft+Neck bypass	2
			Thoracoabdominal Ao. replace.	5

## c) Classification of Abdominal aorta, peripheral artery

	No. Cases	Hosp. mortality (%)	Operation method	
<b>Abdominal aorta</b>	46	3(6.5%)	Graft replacement	28
<b>AAA</b>	46	3(6.5%)	Stent Graft	19
<b>Non-ruptured</b>	40	0		
<b>Ruptured</b>	6	3(50.0%)		
<b>ASO</b>	0	0		
<b>Peripheral artery</b>	26	0	Thrombectomy	9
<b>ASO</b>	6	0	Bypass grafting	12
<b>Acute arterial occlusion</b>	9	0	Plasty	5
<b>Aneurysm</b>	9	0	Others	3
<b>Traumatic</b>	0	0		
<b>Others</b>	2	0		

～ Summary of Hospital death ～

No.	氏名	性	年齢	診断	手術日	緊/待	術後日数
				術式	死亡日	剖検	死因

Cardiac 4 cases

1	原○ 弘	M	80	uAP	2013/2/28	緊急	9
				CABG	2013/3/9	無	脳幹梗塞
2	松○ 日○ 治	M	69	uAP(LMT)	2013/7/5	待機	56
				CABG	2013/9/30	無	重症肺炎
3	濱○ ス○ ミ	F	71	ASR, HD	2013/9/12	緊	55
				AVR	2013/11/6	無	NOMI
4	山○ 啓○	M	71	AR, MR, AP	2013/11/22	待機	20
				AVR, MVR, CABG	2013/12/12	無	SMA塞栓

Thoracic aorta 1case

1	西○ 彰○	M	77	AD(A)	2013/4/1	緊急	9
				Total Arch Replacement	2013/4/11	無	NOMI

Abdominal aorta 3 cases

1	犬○ シ○ エ	M	90	AAA rupture	2013/1/9	緊	8
				grafting	2013/1/17	無	MOF
2	出○ ト○	M	85	AAA rupture	2013/6/30	緊	9
				grafting	2013/7/9	無	NOMI
3	太○ 勝	M	83	AAA rupture	2013/11/15	緊	2
				grafting	2013/11/17	無	MOF

## 各種データの解釈

1)OP mortality: 術後30日以内の全死亡。

Hospital mortality:術後院内での全死亡。(他科転科後の他病死も含む。他院転院後の手術関連死も含む)

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。