

Annual Report of Cardiovascular Surgery 2014
Nagasaki University

2014.1~2014.12

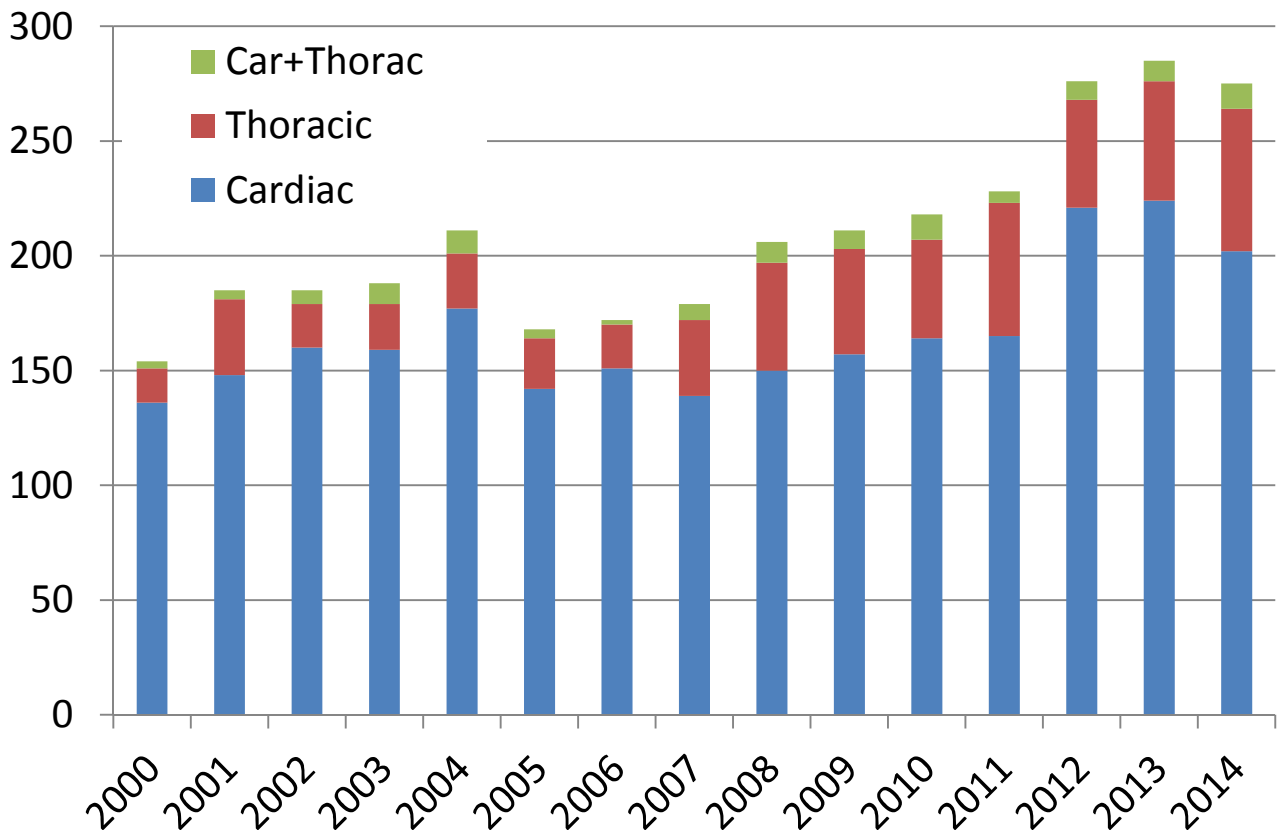
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~Overall~

I . Number of Operations and Surgical mortality

Division	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
Cardiac	198	202	2(1.0)	6(3.0)
Thoracic	58	62	1(1.6)	2(3.2)
Car. + Thoracic	11	11	0	0
Total	267	275	3(1.1)	8(2.9)
Abdominal aorta	54	54	1(1.9)	1(1.9)
Peripheral artery	16	16	0	0

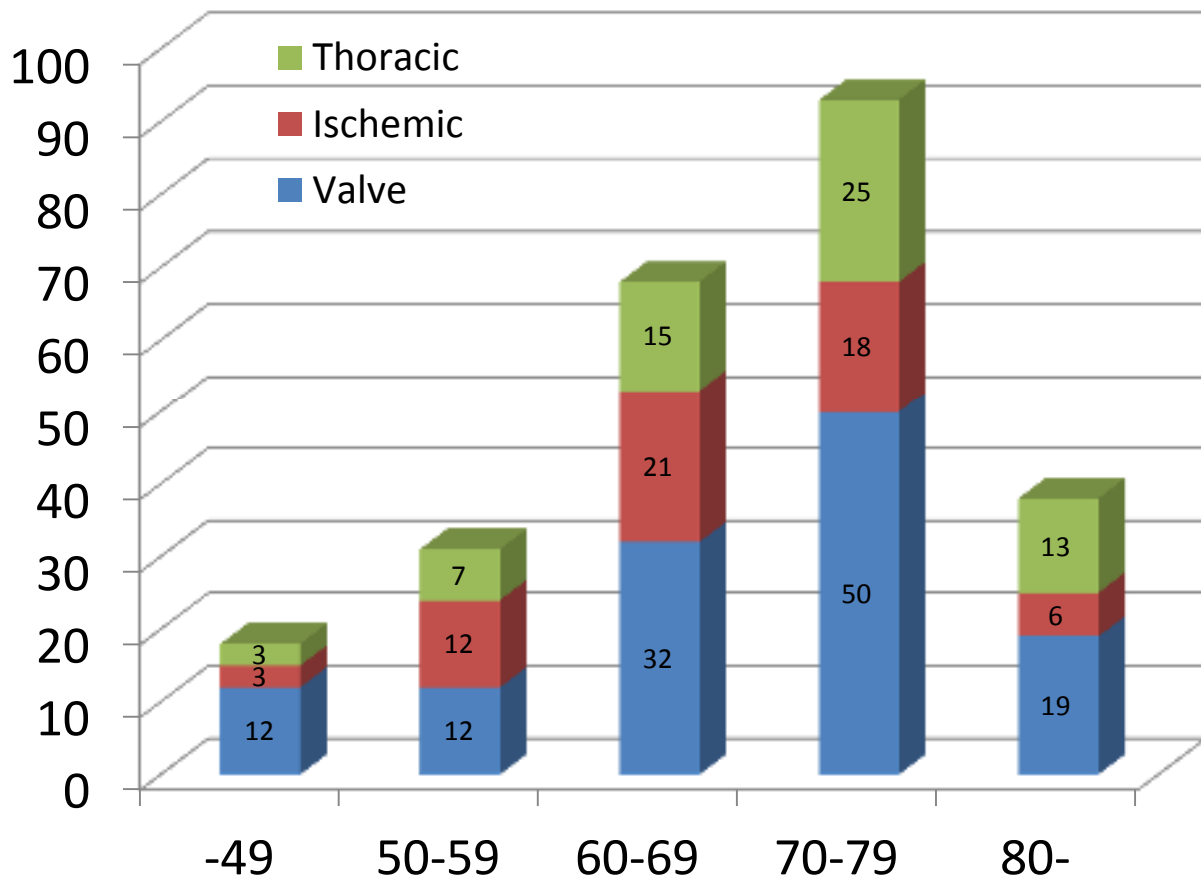
Operations



II . Mode of Operation

	total	Scheduled (%)	Urgent (%)	Emergent (%)
Ischemic	60	51(85.0)	4(6.7)	5(8.3)
Valvular	125	121(96.8)	3(2.4)	1(0.8)
Congenital	3	3(100)	0	0
Others	14	5(35.7)	3(21.4)	6(42.9)
Thoracic aorta	63	37(58.7)	0	26(41.3)
Abdominal aorta	55	46(83.6)	1(1.8)	8(14.6)
Peripheral artery	18	4(22.2)	4(22.2)	10(55.6)
Total	338	267(79.0)	15(4.4)	56(16.6)

III. Age Distribution



~Summary of Cardio-Vascular Division~

I . Number of Operations and Surgical Mortality

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
<u>Cardiac</u>				
Valvular (redo)	141 (17)	144	2(1.4)	5(3.5)
Ischemic (redo)	79 (1)	79	0	1(1.7)
Congenital	5	5	0	0
Others	35	36	0	0
<u>Vascular</u>				
Thoracic aorta (redo) (Stent graft)	60 (5) (10)	64	1(1.6)	2(3.1)
Abdominal aorta (Stent graft)	54 (11)	54	1(1.9)	1(1.9)
Peripheral artery	16	18	0	0

Concomitant Procedure

Valvular(only): 92 cases

CABG(only): 51 cases

Congenital (only): 2 cases

Others(only): 12 cases

Thoracic aorta(only): 47 cases

Valvular + CABG: 17 cases

Valvular + Thoracic aorta: 10 cases

Valvular + Congenital: 2 cases

Valvular + Others: 22 cases

CABG + Thoracic aorta: 7 cases

CABG + Others: 2 cases

Congenital + Others: 1 case

Valvular +Ischemic + Thoracic: 1case

II . Valvular Heart Disease

	No. Cases	No. OP.	OP mortality (%)	Hosp. mortality (%)
Aortic *	57	57	1(1.8)	3(5.3)
Mitral	45	46	0	1(2.2)
Tricuspid	4	4	1(25.0)	1(25.0)
Pulmonary	0	0	0	0
Combined				
A+M	10	10	0	0
M+T	20	20	0	0
A+M+T	6	6	0	0
A+T	2	2	0	0
Total	144	145	2(1.4)	5(3.4)

* Bentall 3 cases, Reimplantation 4 cases, 大動脈弁形成術 2 cases, Reimplantation+ 大動脈弁形成術 3 cases

a) Mitral valve disease

Diagnosis

MR	MSr	MsR	MS	MSR	Total		MVR (%)	Repair (%)
76	0	0	2	3	81		21 (25.9%)	60 (74.1%)

b) Mitral valve repair

Etiology

Congenital	Infectious	Degenerative	Rheumatic	Ischemic	DCM	Other
0	2	49	1	4	2	2

Post ope. follow up

Jet area	Intra. Op.	Post ope. (~discharge)	Follow(~12M)
non to trivial (0-2cm2)	59	53	34
mild (2-4cm2)	1	5	7
mild to moderate (4-8cm2)	0	1	1
moderate to severe (8cm2-)	0	1	0

c) Valve Substitutes implanted

85 Prostheses

	Mechanical	Tissue	Total
AVR	30	35	65
MVR	13	6	19
TVR	0	1	1
PVR	0	0	0
Total	43(50.6)	42(49.4)	85

d) Minimally Invasive Cardiac Surgery

Procedures	No.Cases
MP*	32(3)
MVR**	7(3)
ASD/PFO	3(0)
TP***	2(0)
MIDCAB	1(0)
LA mass/ thrombus	3(1)
Total	48

()内はredo症例数

*) MP isolated 23,
MP+TAP 3
MP+Maze 4
MP+TAP+Maze 2

***) MVR isolated 6
MVR+Maze 1

***) TP isolated 1
TP+Maze 1

III. Ischemic Heart Disease

	Total	Isolated CABG	OP. mortality(%)	Hosp. mortality(%)
SVD	20	4	0	1(5.0)
DVD	18	12	0	0
TVD	25	21	0	0
LMT	16	14	0	0
Total	79	51	0	1(1.3)

Off pump CABG : 18cases
 On pump beating CABG : 7cases

a) Conduit

184 (2.3 / patient)

	Artery	SVG	Cases
SVD	12	11	20
DVD	23	18	18
TVD	43	31	25
LMT	20	26	16
Total	98	86	79

b) Anastomoses

190 (2.4 / patient)

b') Anastomoses by OPCAB

41 (2.3 / patient)

No. Anastomoses	No. Cases (%)
1	18(22.8)
2	24(30.4)
3	26(32.9)
4	9(11.4)
5	2(2.5)
Total Cases	79
Total anast.	190

No. Anastomoses	No. Cases (%)
1	2(11.1)
2	9(50.0)
3	7(38.9)
4	0
5	0
Total Cases	18
Total anast.	41

c) Anastomoses

No. Anastomoses	1	2	3	4	5	No. OP.
SVD	17	3	0	0	0	20
DVD	0	15	2	1	0	18
TVD	1	3	13	6	2	25
LMT	0	3	11	2	0	16
Total	18	24	26	9	2	74
Total anast.	18	48	78	36	10	190

d) Graft patency

	Anastomoses	Examined	Patent	Patency Rate(%)	Stenosis*	Stenosis Rate(%)
SVG	86	80	77	96.3	3	3.7
Artery	98	96	94	97.9	2	2.1
LITA	68	66	65	98.5	1	1.5
RITA	28	28	27	96.4	1	3.6
GEA	2	2	2	100	0	0
RA	0	0	0	0	0	0
Total	184	176(95.7%)	171	97.2	5	2.8

Intervention : 1 cases

*Stenosis : $\geq 90\%$

IV. Congenital Heart Disease

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
ASD	5	5	0	0
VSD	0	0	0	0
PDA	0	0	0	0
VSA(Valsalva)	0	0	0	0
Total	5	5	0	0

V. Others

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
Cardiac tumor	7	7	0	0
Thrombus/ CAT	1	1	0	0
Surgical ventricular repair	3	3	0	0
Bleeding (LV rupture)	2	2	0	0
VAS implantation	2	3	0	0
Maze	17	17	0	0
Others				
Morrow	3	3	0	0
Total	35	36	0	0

VI. Maze operation

	No. Cases	Sinus recovery	(%)
Cryoablation	17	12	70.6
PV isolation	0	0	0
Total	17	12	70.6

VII. Vascular Disease

a) Replacement site

	No. Cases	No. OP.	OP. mortality (%)	Hosp. mortality (%)
Thoracic				
Root	10	10	0	0
Ascending aorta	12	12	0	0
Hemiarch	2	2	0	0
Total arch	17	17	0	1(5.9)
Descending aorta	19	19	1(5.3)	1(5.3)
(Stent graft)	(9)	(9)	0	0
Thoracoabdominal Ao.	4	4	0	0
Total	64	64	1(1.6)	2(3.1)

	No. Cases	No. OP.	OP. mortality(%)	Hosp. mortality (%)
Abdominal aorta	54	54	1(1.9)	1(1.9)
(Stent graft)	(11)	(11)	0	0
Peripheral artery	16	18	0	0
Total	81	83	1(1.2)	1(1.2)

b) Classification of Thoracic aorta

	No. Cases	Hosp. mortality (%)	Operation method	
<u>Dissecting</u>	28	2(7.1)	Root replacement	3
Acute	21	1(4.8)	Bentall+Total arch replacement	2
I	18	1(7.7)	Reimplantation	1
II	2	0	Ascending aorta replacement	11
IIIa	1	0	Hemi arch replacement	2
IIIb	0	0	Total arch replacement (TAR)	4
Chronic	7	1(14.3)	Total arch replacement+Open stent	1
I	0	0	Descending aorta replacement	5
II	0	0	Thoracoabdominal aorta replacement	1
IIIa	2	0	Stent Graft	1
IIIb	5	1(20.0)		
<u>True</u>	36	0	Root replacement	8
Root	8	0	Bentall	1
Ascending	1	0	Reimplantation	6
Arch	12	0	Reimplantation+TAR	1
Descending	12	0	Ascending aorta replacement	1
Thoracoabdominal	3	0	Hemi arch replacement	0
			Total arch replacement	11
			Total arch replacement+Open stent	1
			TAR+Descending aorta replacement	1
			Descending aorta replacement	3
			Thoracoabdominal aorta replacement	3
			Stent Graft	7
			Stent Graft+Debranch	1

c) Classification of Abdominal aorta, peripheral artery

	No. Cases	Hosp. mortality (%)	Operation method	
<u>Abdominal aorta</u>	54	1(1.9)	Graft replacement	42
AAA	53	0	Stent Graft	11
Non-ruptured	50	1(2.0)	IVC repair	1
Ruptured	3	0		
ASO	0	0		
IVC trauma	1	0		
<u>Peripheral artery</u>	18	0	Thrombectomy	8
ASO	2	0	Bypass grafting	4
Acute arterial occlusion	7	0	Plasty	5
Aneurysm	6	0	Others	1
Traumatic	2	0		
Others	0	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 6 cases

1	高○ 勝○	M	70	MR, DCM	2014/1/10	待機	218
				redo MVR	2014/8/16	無	LOS, Sepsis
2	片○ 政○	M	79	AS	2014/1/16	待機	58
				AVR	2014/3/15	無	PMI, LV rupture, MOF
3	松○ 涼	M	69	AS, HD, LC	2014/8/13	待機	81
				AVR	2014/11/2	無	LOS, MOF, 縦隔炎
4	脇○ 道○	M	50	TR, CTEPH*	2014/6/13	緊急	8
				TVR	2014/6/21	無	LOS
5	坂○ 若○	F	73	AS	2014/6/13	待機	12
				AVR	2014/7/1	無	大動脈解離, MOF
6	井○ 希	F	42	uAP, HD	2014/12/8	緊急	57
				CABG	2015/2/3	無	LOS, 縦隔炎

*:CTEPH:慢性血栓性肺高血圧症

Thoracic aorta 2 cases

1	馬○満○夫	M	78	AD(A)	2014/1/28	緊急	44
				Total Arch Replace.	2014/3/13	無	脳幹梗塞
2	佐○田○基	M	73	CD(B)	2014/11/13	緊急	1
				Des. Aorta Replace.	2014/11/14	無	Malperfusion, MOF

Abdominal aorta 1 case

1	犬○ 貞○	M	66	AAA	2014/6/23	待機	6
				Grafting	2014/6/29	無	術後出血, 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。(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。