

Current status of cardiovascular surgery in Japan, 2013 and 2014: A report based on JCVSD

3. Coronary Artery Bypass Surgery

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Japan Cardiovascular Surgery Database (JCVSD)

Preoperative background

	no. of patients	%
	31987	
obese	6982	21.8
smoking	16787	52.5
recent smoking	5554	17.4
family history	3196	10.0
diabetes	16915	52.9
dyslipidemia	19964	62.4
renal insufficiency	8195	25.6
hemodialysis	3425	10.7
hypertention	24962	78.0
COPD	4339	13.3
extracardiac arteripathy	5766	18.0
peripheral arterial disease	1432	4.5
history of PCI	8237	25.8
indication of surgery		
PCI complication	418	1.3
PCI failure	944	3.0
PCI/CABG hybrid	783	2.4
clinical other than above	29842	93.3
AMI	4225	13.2
OMI	8650	27.0
unstable angina	10499	32.8
congestive heart failure	8467	26.5
NYHA III, IV	6076	19.0
arrhythmia	2792	8.7

family history	3196	10.0
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renal insufficiency	8195	25.6
hemodialysis	3425	10.7

history of PCI	8237	25.8
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indication of surgery		
PCI complication	418	1.3
PCI failure	944	3.0
PCI/CABG hybrid	783	2.4
clinical other than above	29842	93.3

Graft choice, combination – elective cases

	Overall	SITA											no ITA	unclear	
		total SITA use	w/ SVG	w/o SVG(all arterial)				total BITA use	w/ SVG	w/o SVG(all arterial)					
				sole	w/ RA	w/ rt. GEA	w/ RA+GEA			sole	w/ RA	w/ rt. GEA			w/ RA+GEA
age	27629	15272	12604	1560	557	410	141	11258	6530	1729	596	799	78	986	113
~49	1259	574 46%	382	102	33	37	20	640 51%	394	107	57	69	13	39 3%	6 0%
50~59	3197	1490 47%	1124	162	95	76	33	1619 51%	1067	233	137	162	20	75 2%	13 0%
60~69	9099	4699 52%	3859	444	203	139	54	4111 45%	2972	605	205	302	27	254 3%	35 0%
70~79	9801	6774 69%	5812	610	201	119	32	2550 26%	1493	634	178	229	16	427 4%	50 1%
80~	2747	1735 63%	1427	242	25	39	2	812 30%	604	150	19	37	2	191 7%	9 0%

Graft choice, combination – emergency/urgency

	Overall	SITA						BITA						no ITA	unclear
		total SITA use	w/ SVG	w/o SVG(all arterial)				total BITA use	w/ SVG	w/o SVG(all arterial)					
				sole	w/ RA	w/ rt. GEA	w/ RA+GEA			sole	w/ RA	w/ rt. GEA	w/ RA+GEA		
age	5429	3604	3135	293	111	54	11	1238	754	300	84	96	4	564	23
~49	258	141 55%	101	17	13	7	3	90 35%	52	18	12	7	1	27 10%	0 0%
50~59	552	341 62%	289	27	15	7	3	179 32%	108	37	13	18	3	31 6%	1 0%
60~69	1554	989 64%	857	78	36	15	3	421 27%	264	94	23	40	0	138 9%	6 0%
70~79	2061	1423 69%	1269	100	32	20	2	433 21%	264	113	29	27	0	194 9%	11 1%
80~	1004	710 71%	619	71	15	5	0	115 11%	66	38	7	4	0	174 17%	5 0%

Graft choice for LAD revascularization

		LITA	RITA	RA	GEA	SVG	unclear	total
	total n	23812	5005	154	158	1472	1439	32040
		74.3%	15.6%	0.5%	0.5%	4.6%	4.5%	100.0%
by age	~50	1081	252	11	6	42	94	1428
		75.7%	17.6%	0.8%	0.4%	2.9%	6.6%	100.0%
	50~59	2582	698	19	16	104	153	3497
		73.8%	20.0%	0.5%	0.5%	3.0%	4.4%	100.0%
	60~69	7403	1817	45	47	343	437	9880
		74.9%	18.4%	0.5%	0.5%	3.5%	4.4%	100.0%
	70~79	9674	1816	65	73	614	581	12537
		77.2%	14.5%	0.5%	0.6%	4.9%	4.6%	100.0%
	80~	3072	422	14	16	369	174	3982
		77.1%	10.6%	0.4%	0.4%	9.3%	4.4%	100.0%

Short-term clinical results

-comparison of elective and emergency/urgency-

	Elective cases					
	ONCAB		OPCAB		total	
	n=5815		n=7094		12909	
Bleeding	123	2.1%	78	1.1%	201	1.6%
Stroke	116	2.0%	74	1.0%	190	1.5%
Deep sternal infection	130	2.2%	94	1.7%	224	1.7%
Prolonged ventilation>72hr	397	6.8%	156	2.2%	553	4.3%
Pneumonia	160	2.8%	103	1.5%	263	2.0%
GI complication	89	1.5%	69	0.9%	158	1.2%
Af	803	13.8%	809	11.4%	1612	12.5%
Readmission <30days	100	1.7%	170	2.4%	270	2.1%
In-hospital mortality	177	3.0%	72	1.0%	249	1.9%

Short-term clinical results

-comparison of elective and emergency/urgency-

	Emergency+urgency cases					
	ONCAB		OPCAB		total	
	n=1450		n=1330		2780	
Bleeding	56	3.9%	22	1.7%	78	2.8%
Stroke	55	3.8%	26	2.0%	81	2.9%
Deep sternal infection	25	1.7%	30	2.3%	55	2.0%
Prolonged ventilation>72hr	414	18.4%	187	14.1%	601	21.6%
Pneumonia	112	7.7%	57	4.3%	169	6.1%
GI complication	43	3.0%	27	2.0%	70	2.5%
Af	233	16.1%	165	12.4%	398	14.3%
Readmission <30days	11	0.8%	21	1.6%	32	1.2%
In-hospital mortality	174	12.0%	67	5.0%	241	8.7%

Short-term clinical results

-comparison of elective and emergency/urgency-

	Elective cases						Emergency+urgency cases						Elec vs E+U	
	ONCAB		OPCAB		total		ONCAB		OPCAB		total			
	n=5815		n=7094		12909		n=1450		n=1330		2780		p value	
Bleeding	123	2.1%	78	1.1%	201	1.6%	56	3.9%	22	1.7%	78	2.8%	<0.0001	
Stroke	116	2.0%	74	1.0%	190	1.5%	55	3.8%	26	2.0%	81	2.9%	<0.0001	
Deep sternal infection	130	2.2%	94	1.7%	224	1.7%	25	1.7%	30	2.3%	55	2.0%	<0.0001	
Prolonged ventilation>72hr	397	6.8%	156	2.2%	553	4.3%	414	18.4%	187	14.1%	601	21.6%	<0.0001	
Pneumonia	160	2.8%	103	1.5%	263	2.0%	112	7.7%	57	4.3%	169	6.1%	<0.0001	
GI complication	89	1.5%	69	0.9%	158	1.2%	43	3.0%	27	2.0%	70	2.5%	<0.0001	
Af	803	13.8%	809	11.4%	1612	12.5%	233	16.1%	165	12.4%	398	14.3%	<0.0001	
Readmission <30days	100	1.7%	170	2.4%	270	2.1%	11	0.8%	21	1.6%	32	1.2%	<0.005	
In-hospital mortality	177	3.0%	72	1.0%	249	1.9%	174	12.0%	67	5.0%	241	8.7%	<0.0001	