

**Current status of cardiovascular surgery in Japan,
2013 and 2014
A report based on JCVSD
Valvular Heart Disease**

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

- Procedures and Mortality

 - in each valve position and in each age group

- Aortic : Mechanical vs Bioprosthesis

- Mitral / Tricuspid : Mechanical vs Bioprosthesis vs Plasty

- Chronic Hemodialysis : Mechanical vs Bioprosthesis

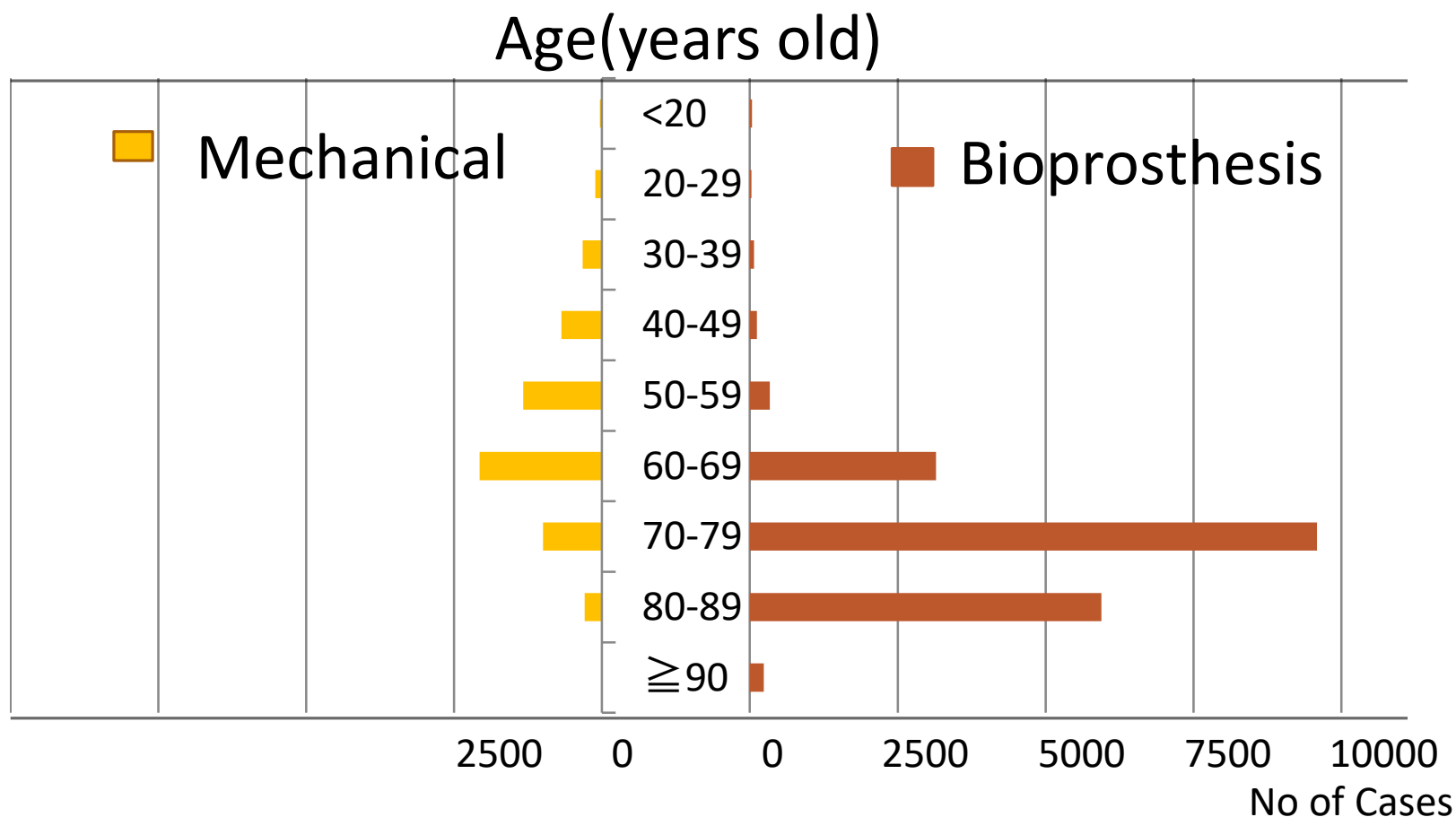
- Preoperative Complications

 - Hemodialysis, Liver dysfunction, Atrial Fibrillation/Flutter

Valve prosthesis and mortality rate in each age group of patients after **AVR**

<u>Age</u> (years old)	<u>Mechanical</u>		<u>Bioprosthesis</u>		<u>Total</u>	
	Cases	Proportion(%)	Cases	Proportion(%)	Cases	Deaths (%)
< 20	36	48.6%	38	51.4%	74	3 (4.1%)
20-29	113	79.6%	29	20.4%	142	2 (1.4%)
30-39	325	82.3%	70	17.7%	395	13 (3.3%)
40-49	685	85.2%	119	14.8%	804	26 (3.2%)
50-59	1331	79.8%	337	20.2%	1668	64 (3.8%)
60-69	2069	39.7%	3149	60.3%	5218	178 (3.4%)
70-79	998	9.4%	9587	90.6%	10585	472 (4.5%)
80-89	293	4.7%	5944	95.3%	6237	328 (5.3%)
≥ 90	5	2.1%	234	97.9%	239	11 (4.6%)
Total (Death)	5855 (284)	23.1%	19507 (813)	76.9%	25362	1097 (4.3%)
Mortality		4.9%		4.2%		4.3%

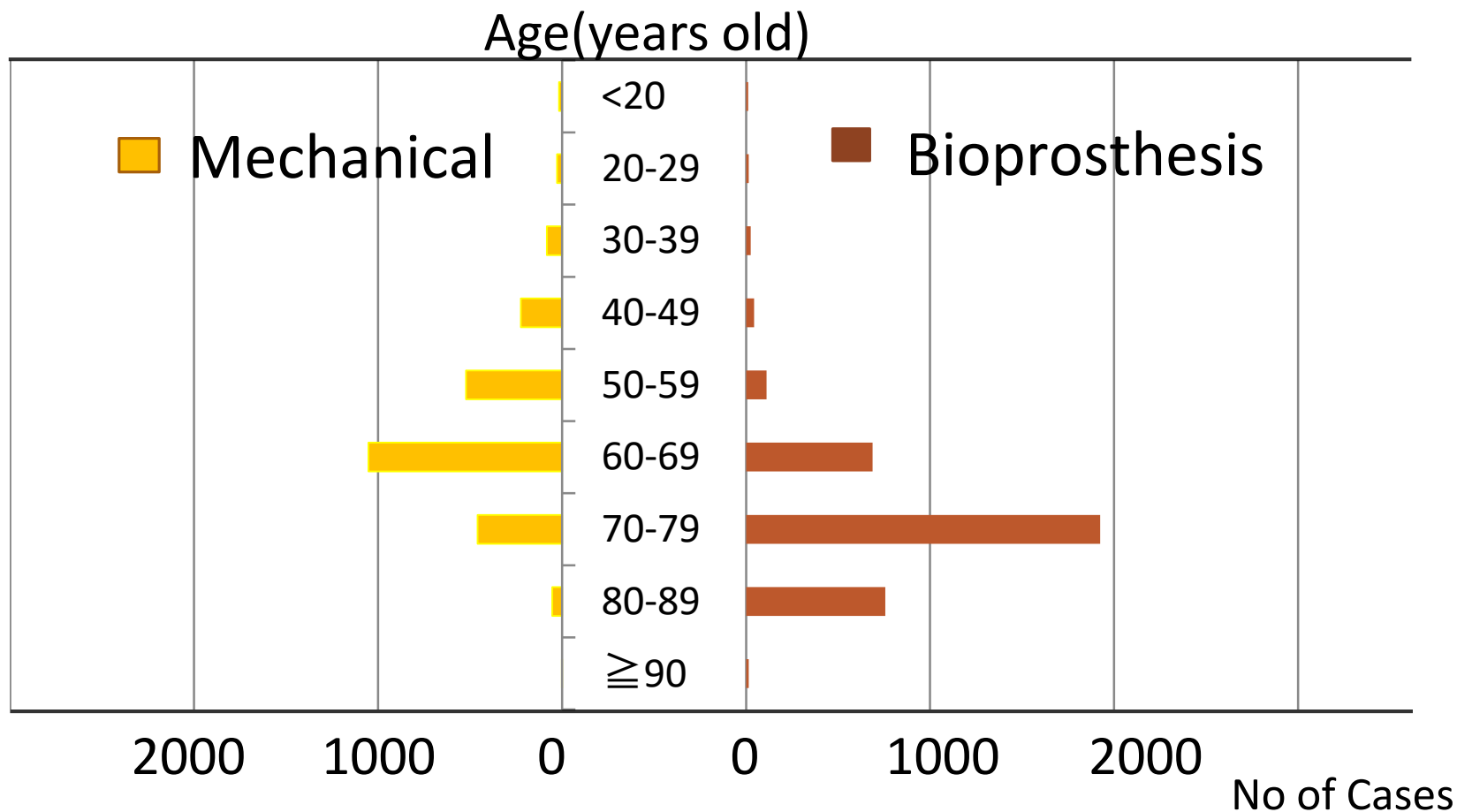
本邦における年代別の人工弁選択 (AVR)



Mitral valve procedures and mortality rate in each age group of patients

<u>Age</u> (years old)	<u>Mechanical</u>		<u>Bioprosthesis</u>		<u>Plasty</u>		<u>Total</u>	
	Cases	(%)	Cases	(%)	Cases	(%)	Cases	Deaths(%)
I<20	16	17.2%	11	11.8%	66	71.0%	93	1 (1.1%)
20-29	27	13.4%	14	7.0%	160	79.6%	201	2 (1.0%)
30-39	82	17.3%	25	5.3%	367	77.4%	474	3 (0.6%)
40-49	224	17.8%	44	3.5%	993	78.7%	1261	35 (2.8%)
50-59	522	19.9%	111	4.2%	1994	75.9%	2627	62 (2.4%)
60-69	1052	19.6%	687	12.8%	3637	67.7%	5376	174 (3.3%)
70-79	460	7.6%	1925	31.7%	3688	60.7%	6073	300 (5.1%)
80-89	54	2.8%	756	39.5%	1106	57.7%	1916	150 (8.0%)
≥90	1	2.9%	15	42.9%	19	54.3%	35	2 (5.7%)
Total (Deaths)	2438 (132)	13.5%	3588 (268)	19.9%	12030 (329)	66.6%	18056	729(4.0%)
Mortality		5.4%		7.5%		2.7%		4.0%

本邦における年代別の人工弁選択 (MVR)



Tricuspid valve procedures and mortality rate in each age group of patients

Age (years old)	Mechanical		Bioprosthesis		Plasty		Total	
	Cases	(%)	Cases	(%)	Cases	(%)	Cases	Deaths(%)
<20	1	2.3%	0	0.0%	42		43	1 (2.3%)
20-29	2	3.0%	5	7.6%	59	89.4%	66	3 (4.5%)
30-39	5	3.1%	8	4.9%	150	92.0%	163	1 (0.6%)
40-49	7	1.6%	12	2.7%	418	95.7%	437	22 (5.0%)
50-59	4	0.4%	28	2.6%	1041	97.0%	1073	36 (3.4%)
60-69	15	0.5%	81	2.5%	3116	97.0%	3212	146 (4.5%)
70-79	6	0.1%	137	2.8%	4831	97.1%	4974	236 (4.7%)
80-89	1	0.1%	47	2.6%	1782	97.4%	1830	151 (8.3%)
≥90	0	0.0%	0	0.0%	30	100.0%	30	1 (3.3%)
Total (Deaths)	41 (3)	0.3%	318 (45)	2.7%	11469 (549)	97.0%	11828	597(5.0%)
Mortality		7.3%		14.2%		4.8%		5.0%

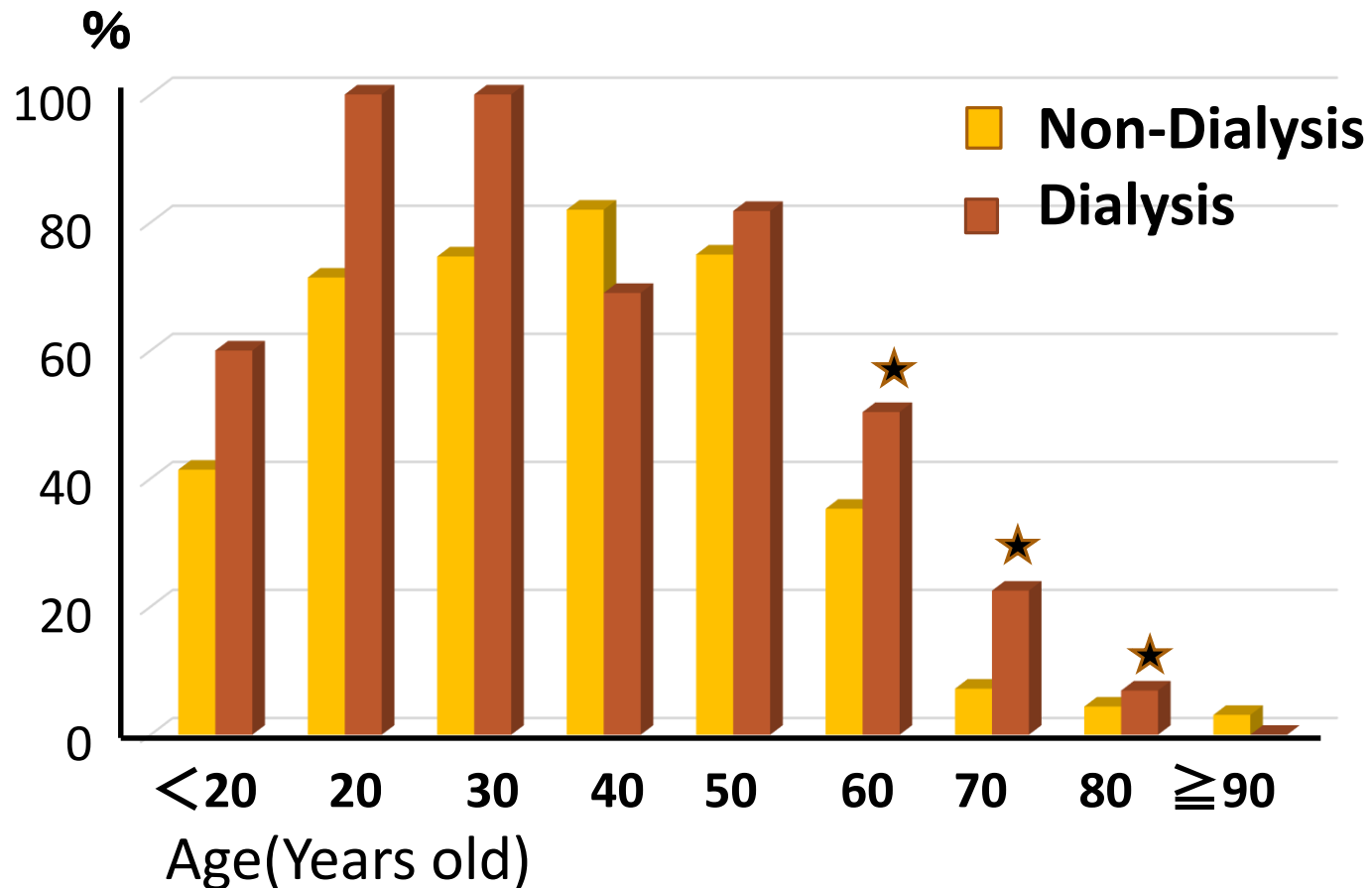
Valve prosthesis and mortality rate in each age group of patients receiving **chronic hemodialysis** in **AVR** group

<u>Age</u> (years old)	<u>Mechanical</u>		<u>Bioprosthesis</u>		<u>Total</u>	
	Cases	(%)	Cases	(%)	Cases	Deaths(%)
<20	3	60.0%	2	40.0%	5	0 (0.0%)
20-29	3	100.0%	0	0.0%	3	0 (0.0%)
30-39	8	100.0%	0	0.0%	8	0 (0.0%)
40-49	25	75.8%	8	24.2%	33	0 (0.0%)
50-59	145	84.3%	27	15.7%	172	13 (7.6%)
60-69	368	51.6%	345	48.4%	713	63 (8.8%)
70-79	252	23.5%	821	76.5%	1073	146 (13.6%)
80-89	26	7.2%	333	92.8%	359	52 (14.5%)
≥90	0	0.0%	3	100.0%	3	2 (66.7%)
Total (Deaths)	830 (87)	35.0%	1539 (189)	65.0%	2369	276(11.7%)
Mortality		10.5%		12.3%		11.7%

Mitral valve procedures and mortality rate in each age group of patients receiving chronic hemodialysis

Age (years old)	Mechanical		Bioprosthesis		Plasty		Total	
	Cases	(%)	Cases	(%)	Cases	(%)	Cases	Deaths(%)
<20	1	50.0%	1	50.0%	0	0.0%	2	0 (0.0%)
20-29	0	0.0%	1	100.0%	0	0.0%	1	0 (0.0%)
30-39	1	14.3%	0	0.0%	6	85.7%	7	1 (14.3%)
40-49	11	28.2%	4	10.3%	24	61.5%	39	4 (10.3%)
50-59	44	36.1%	12	9.8%	66	54.1%	122	14 (11.5%)
60-69	77	26.7%	52	18.1%	159	55.2%	288	33 (11.5%)
70-79	31	13.2%	72	30.6%	132	56.2%	235	42 (17.9%)
80-89	0	0.0%	14	33.3%	28	66.7%	42	12 (28.6%)
≥90	0	0.0%	0	0.0%	0	0.0%	0	0 (0.0%)
Total (Deaths)	165 (22)	22.4%	156 (41)	21.2%	415 (43)	56.4%	736	106 (14.4%)
Mortality		13.3%		26.3%		10.4%		14.4%

本邦における透析患者の人工弁の選択 (AVR) 機械弁の比率の比較 非透析患者vs透析患者



The number of each prosthetic valve and mortality rate in **AVR** patients with preoperative complications
Comparison with all cases

<u>Complication</u>	<u>Mechanical</u>		<u>Bioprosthesis</u>		<u>Total</u>	
	Cases	Deaths(%)	Cases	Deaths(%)	Cases	Deaths(%)
All cases	5855 (23.1%)	284(4.9%)	19507 (76.9%)	813(4.2%)	25362	1097 (4.3%)
Hemodialysis	830 (35.0%)	87(10.5%)	1539 (65.0%)	189(12.3%)	2369	276 (11.7%)
Liver dysfunction	151 (29.8%)	23(15.2%)	356 (70.2%)	57(16.0%)	507	80 (15.8%)
Flutter/Fibrillation	622 (19.7%)	39(6.3%)	2531 (80.3%)	137(5.4%)	3153	176 (5.6%)

The number of each procedure and mortality rate in **mitral** patients with preoperative complications
 Comparison with all cases

<u>Complication</u>	<u>Mechanical</u>		<u>Bioprosthesis</u>		<u>Plasty</u>		<u>Total</u>	
	Cases	Deaths(%)	Cases	Deaths(%)	Cases	Deaths(%)	Cases	Deaths(%)
ALL cases	2438 (13.5%)	132 (5.4%)	3588 (19.9%)	268(7.5%)	12030(66.6%)	329(2.7%)	18056	729 (4.0%)
Hemodialysis	165 (22.4%)	22(13.3%)	156 (21.2%)	41(26.3%)	415(56.4%)	43(10.4%)	736	106(14.4%)
Liver dysfunction	162 (21.0%)	14(8.6%)	202 (26.2%)	36(17.8%)	406(52.7%)	36(8.9%)	770	86(11.2%)
flutter/fibrillation	910 (15.5%)	41(4.5%)	1487 (25.4%)	97(6.5%)	3466(59.1%)	100(2.9%)	5863	238 (4.1%)