SUPPLEMENTARY MATERIAL

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Takeji Y, *et al. BMJ Open* 2021; 11:e044329. doi: 10.1136/bmjopen-2020-044329

Supplemental Appendix A: List of participating centers and investigators

The CREDO-Kyoto PCI/CABG Registry Cohort-2

Cardiology

Kyoto University Hospital: Takeshi Kimura, Hiroki Shiomi

Kishiwada City Hospital: Mitsuo Matsuda, Hirokazu Mitsuoka

Tenri Hospital: Yoshihisa Nakagawa

Hyogo Prefectural Amagasaki Hospital: Hisayoshi Fujiwara, Yoshiki Takatsu, Ryoji Taniguchi

Kitano Hospital: Ryuji Nohara

Koto Memorial Hospital: Tomoyuki Murakami, Teruki Takeda

Kokura Memorial Hospital: Masakiyo Nobuyoshi, Masashi Iwabuchi

Maizuru Kyosai Hospital: Ryozo Tatami

Nara Hospital, Kinki University Faculty of Medicine: Manabu Shirotani

Kobe City Medical Center General Hospital: Toru Kita, Yutaka Furukawa, Natsuhiko Ehara

Nishi-Kobe Medical Center: Hiroshi Kato, Hiroshi Eizawa

Kansai Denryoku Hospital: Katsuhisa Ishii

Osaka Red Cross Hospital: Masaru Tanaka

University of Fukui Hospital: Jong-Dae Lee, Akira Nakano

Shizuoka City Shizuoka Hospital: Akinori Takizawa

Hamamatsu Rosai Hospital: Masaaki Takahashi

Shiga University of Medical Science Hospital: Minoru Horie, Hiroyuki Takashima

Japanese Red Cross Wakayama Medical Center: Takashi Tamura

Shimabara Hospital: Mamoru Takahashi

Kagoshima University Medical and Dental Hospital: Chuwa Tei, Shuichi Hamasaki

Shizuoka General Hospital: Hirofumi Kambara, Osamu Doi, Satoshi Kaburagi

Kurashiki Central Hospital: Kazuaki Mitsudo, Kazushige Kadota

Mitsubishi Kyoto Hospital: Shinji Miki, Tetsu Mizoguchi

Kumamoto University Hospital: Hisao Ogawa, Seigo Sugiyama

Shimada Municipal Hospital: Ryuichi Hattori, Takeshi Aoyama, Makoto Araki

Juntendo University Shizuoka Hospital: Satoru Suwa

Cardiovascular Surgery

Kyoto University Hospital: Ryuzo Sakata, Tadashi Ikeda, Akira Marui

Kishiwada City Hospital: Masahiko Onoe

Tenri Hospital: Kazuo Yamanaka

Hyogo Prefectural Amagasaki Hospital: Keiichi Fujiwara, Nobuhisa Ohno

Kokura Memorial Hospital: Michiya Hanyu

Maizuru Kyosai Hospital: Tsutomu Matsushita

Nara Hospital, Kinki University Faculty of Medicine: Noboru Nishiwaki, Yuichi Yoshida

Kobe City Medical Center General Hospital: Yukikatsu Okada, Michihiro Nasu

Osaka Red Cross Hospital: Shogo Nakayama

University of Fukui Hospital: Kuniyoshi Tanaka, Takaaki Koshiji, Koichi Morioka

Shizuoka City Shizuoka Hospital: Mitsuomi Shimamoto, Fumio Yamazaki

Hamamatsu Rosai Hospital: Junichiro Nishizawa

Japanese Red Cross Wakayama Medical Center: Masaki Aota

Shimabara Hospital: Takafumi Tabata

Kagoshima University Medica and Dental Hospital: Yutaka Imoto, Hiroyuki Yamamoto

Shizuoka General Hospital: Katsuhiko Matsuda, Masafumi Nara

Kurashiki Central Hospital: Tatsuhiko Komiya

Mitsubishi Kyoto Hospital: Hiroyuki Nakajima

Kumamoto University Hospital: Michio Kawasuji, Syuji Moriyama

Juntendo University Shizuoka Hospital: Keiichi Tanbara

The CREDO-Kyoto PCI/CABG Registry Cohort-3

Cardiology

Kyoto University Hospital: Takeshi Kimura, Hiroki Shiomi

Kishiwada City Hospital: Mitsuo Matsuda, Takashi Uegaito

Tenri Hospital: Toshihiro Tamura

Hyogo Prefectural Amagasaki General Medical Center: Yukihito Sato, Ryoji Taniguchi

Kitano Hospital: Moriaki Inoko

Koto Memorial Hospital: Tomoyuki Murakami, Teruki Takeda

Kokura Memorial Hospital: Kenji Ando, Takenori Domei

Kindai University Nara Hospital: Manabu Shirotani

Kobe City Medical Center General Hospital: Yutaka Furukawa, Natsuhiko Ehara

Kobe City Nishi-Kobe Medical Center: Hiroshi Eizawa

Kansai Denryoku Hospital: Katsuhisa Ishii, Eiji Tada

Osaka Red Cross Hospital: Masaru Tanaka, Tsukasa Inada

Shizuoka City Shizuoka Hospital: Tomoya Onodera, Ryuzo Nawada

Hamamatsu Rosai Hospital: Eiji Shinoda, Miho Yamada

Shiga University of Medical Science Hospital: Takashi Yamamoto, Hiroshi Sakai

Japanese Red Cross Wakayama Medical Center: Takashi Tamura, Mamoru Toyofuku

Shimabara Hospital: Mamoru Takahashi

Shizuoka General Hospital: Hiroki Sakamoto, Tomohisa Tada

Kurashiki Central Hospital: Kazushige Kadota, Takeshi Tada

Mitsubishi Kyoto Hospital: Shinji Miki, Kazuhisa Kaneda

Shimada Municipal Hospital: Takeshi Aoyama

Juntendo University Shizuoka Hospital: Satoru Suwa

Cardiovascular Surgery

Kyoto University Hospital: Kenji Minatoya, Kazuhiro Yamazaki

Kishiwada City Hospital: Tatsuya Ogawa

Tenri Hospital: Atsushi Iwakura

Hyogo Prefectural Amagasaki General Medical Center: Nobuhisa Ohno

Kitano Hospital: Michiya Hanyu

Kokura Memorial Hospital: Yoshiharu Soga, Akira Marui

Kindai University Nara Hospital: Nobushige Tamura

Kobe City Medical Center General Hospital: Tadaaki Koyama

Osaka Red Cross Hospital: Shogo Nakayama

Shizuoka City Shizuoka Hospital: Fumio Yamazaki, Yasuhiko Terai

Hamamatsu Rosai Hospital: Junichiro Nishizawa

Japanese Red Cross Wakayama Medical Center: Naoki Kanemitsu, Hiroyuki Hara

Shizuoka General Hospital: Hiroshi Tsuneyoshi

Kurashiki Central Hospital: Tatsuhiko Komiya

Mitsubishi Kyoto Hospital: Jiro Esaki

Juntendo University Shizuoka Hospital: Keiichi Tambara

Supplemental Appendix B: List of clinical research coordinators

The CREDO-Kyoto PCI/CABG Registry Cohort-2

Research Institute for Production Development

Kumiko Kitagawa, Misato Yamauchi, Naoko Okamoto, Yumika Fujino, Saori Tezuka, Asuka Saeki, Miya Hanazawa, Yuki Sato, Chikako Hibi, Hitomi Sasae, Emi Takinami, Yuriko Uchida, Yuko Yamamoto, Satoko Nishida, Mai Yoshimoto, Sachiko Maeda, Izumi Miki, Saeko Minematsu

The CREDO-Kyoto PCI/CABG Registry Cohort-3

Research Institute for Production Development

Sakiko Arimura, Yumika Fujino, Miya Hanazawa, Chikako Hibi, Risa Kato, Yui Kinoshita, Kumiko Kitagawa, Masayo Kitamura, Takahiro Kuwahara, Satoko Nishida, Naoko Okamoto, Yuki Sato, Saori Tezuka, Marina Tsuda, Miyuki Tsumori, Misato Yamauchi, Itsuki Yamazaki

Supplemental Appendix C: Definitions of baseline characteristics and endpoints

Diabetes was defined as treatment with oral hypoglycemic agents or insulin, prior clinical diagnosis of diabetes, glycated hemoglobin level ≥6.5 %, or non-fasting blood glucose level ≥200 mg/dL. Left ventricular ejection fraction was measured either by contrast left ventriculography or echocardiography. Prior stroke was defined as ischemic or hemorrhagic stroke with neurological symptoms lasting >24 hours. Peripheral vascular disease was regarded as present when carotid, aortic, or other peripheral vascular diseases were being treated or scheduled for surgical or endovascular interventions. Renal function was expressed as estimated glomerular filtration rate (eGFR) calculated by the Modification of Diet in Renal Disease formula modified for Japanese patients. [1] High-intensity statins therapy in this study was defined as the statin doses greater than or equal to atorvastatin 20 mg, pitavastatin 4 mg, or rosuvastatin 10 mg.

Death was regarded as cardiac in origin unless obvious non-cardiac causes could be identified. Cardiovascular death included cardiac death, and other vascular death related to stroke, renal disease, and vascular disease. Any death during the index hospitalization and death of unknown cause were regarded as cardiac death. Sudden death was defined as unexplained death in previously stable patients. Myocardial infarction was defined according to the definition in the Arterial Revascularization Therapy Study (ARTS) [2], and only Q-wave myocardial infarction was regarded as myocardial infarction when it occurred within 7 days of the index procedure. [3] Definite stent thrombosis was defined according to the Academic Research Consortium (ARC) definition. [4] Stroke during follow up was defined as ischemic or hemorrhagic stroke requiring hospitalization with symptoms lasting >24 hours. Hospitalization for heart failure was defined as hospitalization due to worsening heart failure requiring intravenous drug therapy. Major bleeding was defined as the global utilization of streptokinase and tissue plasminogen activator for occluded coronary arteries (GUSTO)

moderate/severe bleeding. [3, 5] TVR was defined as either PCI or CABG related to the original target vessel. Any coronary revascularization was defined as either PCI or CABG for any reason. Scheduled staged coronary revascularization procedures performed within 3 months of the initial procedure were not regarded as follow-up events, but included in the index procedure. Duration of dual antiplatelet therapy (DAPT) in patients who underwent PCI was left to the discretion of each attending physician. Persistent discontinuation of DAPT was defined as withdrawal of either thienopyridines or aspirin for at least 2 months.

Supplemental Appendix D: List of the clinical event committee members

The CREDO-Kyoto PCI/CABG Registry Cohort-2

Mitsuru Abe (Kyoto Medical Center), Hiroki Shiomi (Kyoto University Hospital), Tomohisa Tada (Deutsches Herzzentrum), Junichi Tazaki (Kyoto University Hospital), Yoshihiro Kato (Saiseikai Noe Hospital), Mamoru Hayano (Gunma Cardiovascular Center), Akihiro Tokushige (Kagoshima University Hospital), Masahiro Natsuaki (Kyoto University Hospital), Tetsu Nakajima (Kyoto University Hospital).

The CREDO-Kyoto PCI/CABG Registry Cohort-3

Masayuki Fuki (Kyoto University Hospital), Eri Toda Kato (Kyoto University Hospital), Yukiko Matsumura-Nakano (Kyoto University Hospital), Kenji Nakatsuma (Mitsubishi Kyoto Hospital), Hiroki Shiomi (Kyoto University Hospital), Yasuaki Takeji (Kyoto University Hospital), Hidenori Yaku (Mitsubishi Kyoto Hospital), Erika Yamamoto (Kyoto University Hospital), Ko Yamamoto (Kyoto University Hospital), Yugo Yamashita (Kyoto University Hospital), Yusuke Yoshikawa (Kyoto University Hospital), Hiroki Watanabe (Japanese Red Cross Wakayama Medical Center)

Supplemental Appendix E: Missing values about baseline characteristics

There were missing values for body mass index in 125 patients (Cohort-2: 103 [6.1%] and Cohort-3: 22 [2.1%]), for systolic blood pressure in 28 patients (Cohort-2: 22 [1.3%] and Cohort-3: 6 [0.4%]), for diastolic blood pressure in 31 patients (Cohort-2: 22 [1.3%] and Cohort-3: 9 [0.6%]), for LVEF in 813 patients (Cohort-2: 558 [33%] and Cohort-3: 255 [16%]), for eGFR in 31 patients (Cohort-2: 29 [1.7%] and Cohort-3: 2 [0.1%]), for hemoglobin level in 35 patients (Cohort-2: 33 [2.0%] and Cohort-3: 2 [0.1%]), for platelet count in 17 patients (Cohort-2: 16 [1.0%] and Cohort-3: 1 [0.6%]).

Supplementary figure legends

Supplemental Figure 1. Landmark analysis within and beyond 30 days for all-cause death comparing between Cohort-2 and Cohort-3

HR=hazard ratio; CI=confidence interval.

Supplemental Figure 2. Landmark analysis within and beyond 30 days for major bleeding comparing between Cohort-2 and Cohort-3

Major bleeding was defined as GUSTO moderate/severe bleeding.

HR=hazard ratio; CI=confidence interval; GUSTO=global utilization of streptokinase and tissue plasminogen activator for occluded coronary arteries.

Supplemental Figure 3. Kaplan-Meier curves for major bleeding comparing between Cohort-2 and Cohort-3 in patients who received PCI as the index coronary revascularization procedure

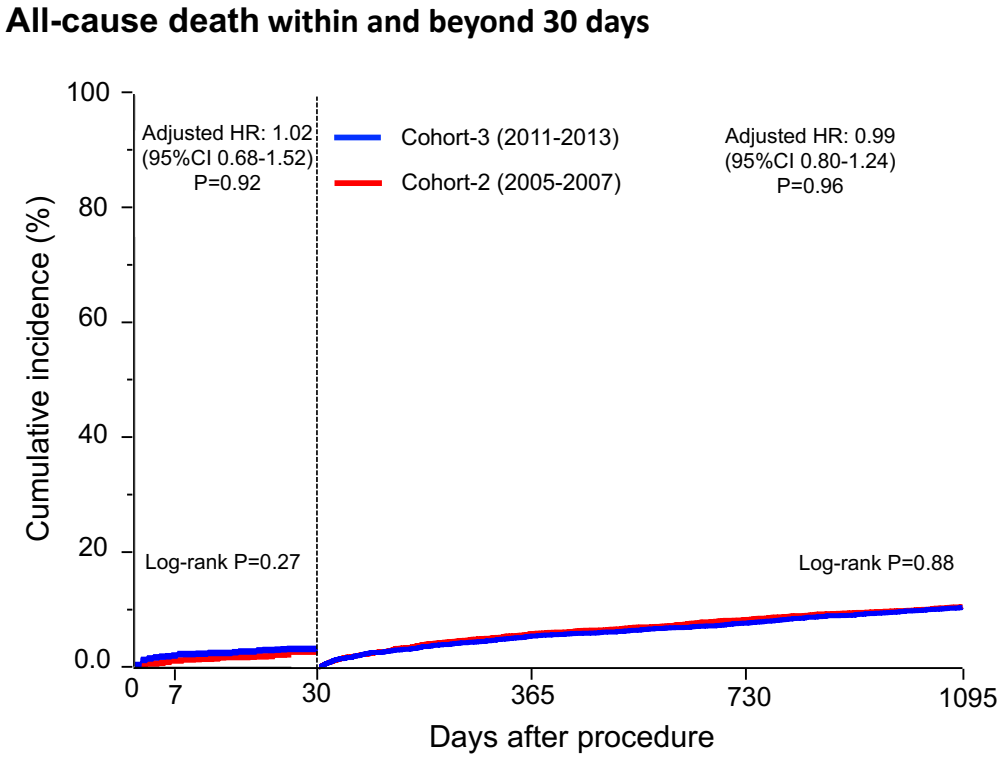
(A) Entire follow-up period and (B) Landmark analysis within and beyond 30 days

Supplemental Figure 4. Kaplan-Meier curves for persistent DAPT discontinuation comparing between Cohort-2 and Cohort-3 in patients who received PCI as the index coronary revascularization procedure

Persistent discontinuation of DAPT was defined as withdrawal of either thienopyridines or aspirin for at least 2 months.

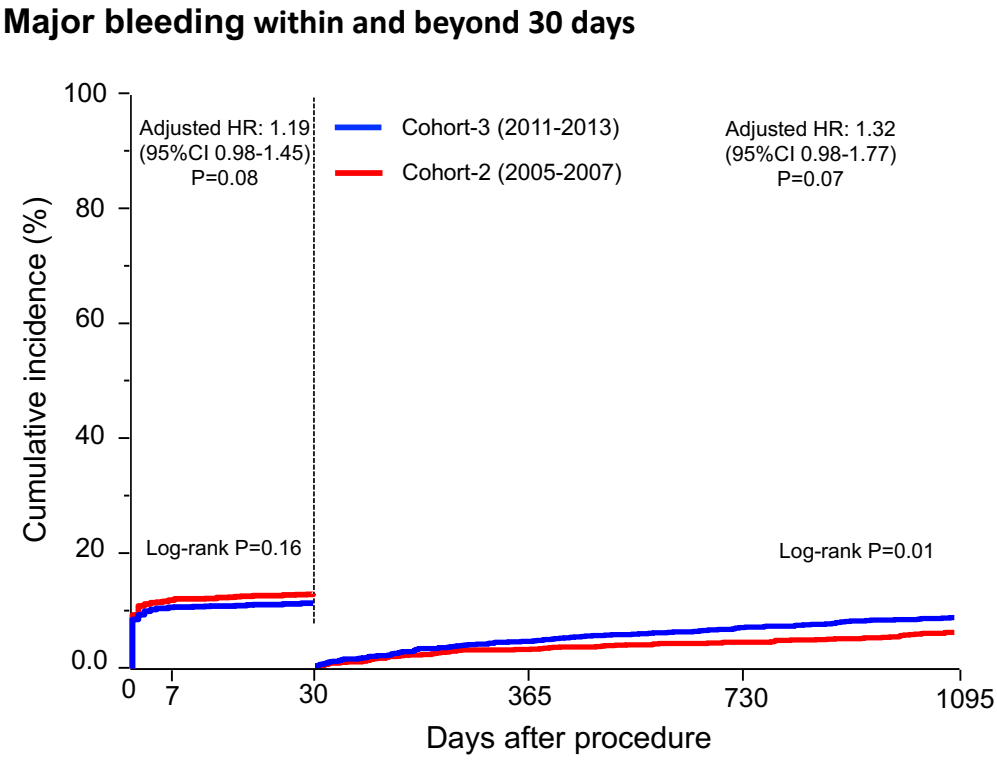
DAPT=dual antiplatelet therapy.

Supplemental Figure 1. Landmark analysis within and beyond 30 days for all-cause death comparing between Cohort-2 and Cohort-3



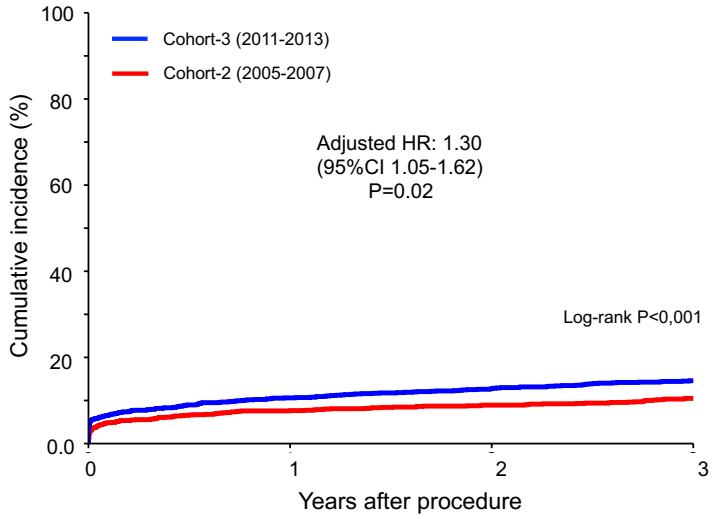
Interval	0 day	7 days	30 days	1 year	2 years	3 years
Cohort-3						
N of patients at risk	1571	1531	1498	1389	1326	1254
N of patients with event		38	55	68	113	155
Cumulative incidence		2.4%	3.5%	4.6%	7.7%	10.7%
Cohort-2						
N of patients at risk	1683	1661	1630	1524	1464	1400
N of patients with event		22	48	74	121	168
Cumulative incidence		1.3%	2.9%	4.6%	7.5%	10.5%

Supplemental Figure 2. Landmark analysis within and beyond 30 days for major bleeding comparing between Cohort-2 and Cohort-3

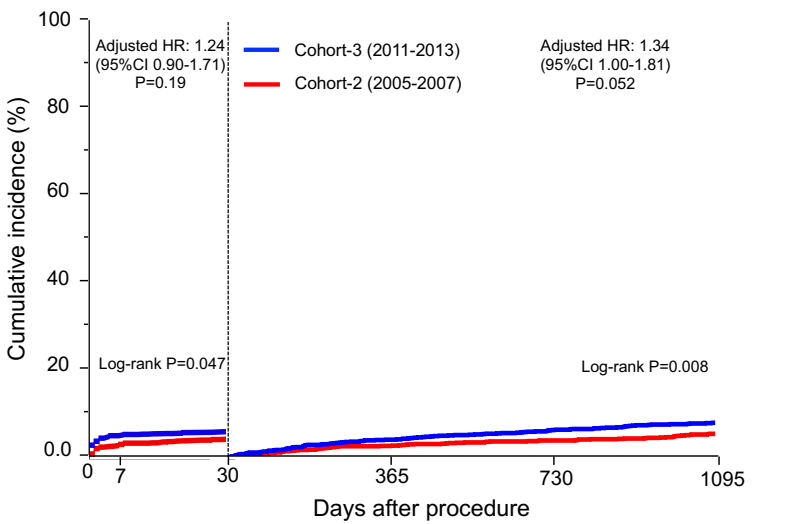


Interval	0 day	7 days	30 days	1 year	2 years	3 years
Cohort-3						
N of patients at risk	1571	1369	1340	1216	1150	1074
N of patients with event		180	191	57	85	109
Cumulative incidence		11.5%	12.2%	4.4%	6.6%	8.6%
Cohort-2						
N of patients at risk	1683	1460	1422	1318	1256	1189
N of patients with event		218	234	42	59	81
Cumulative incidence		13.0%	13.9%	3.0%	4.3%	6.0%

Supplemental Figure 3. Kaplan-Meier curves for major bleeding comparing between Cohort-2 and Cohort-3 in patients who received PCI as the index coronary revascularization procedure

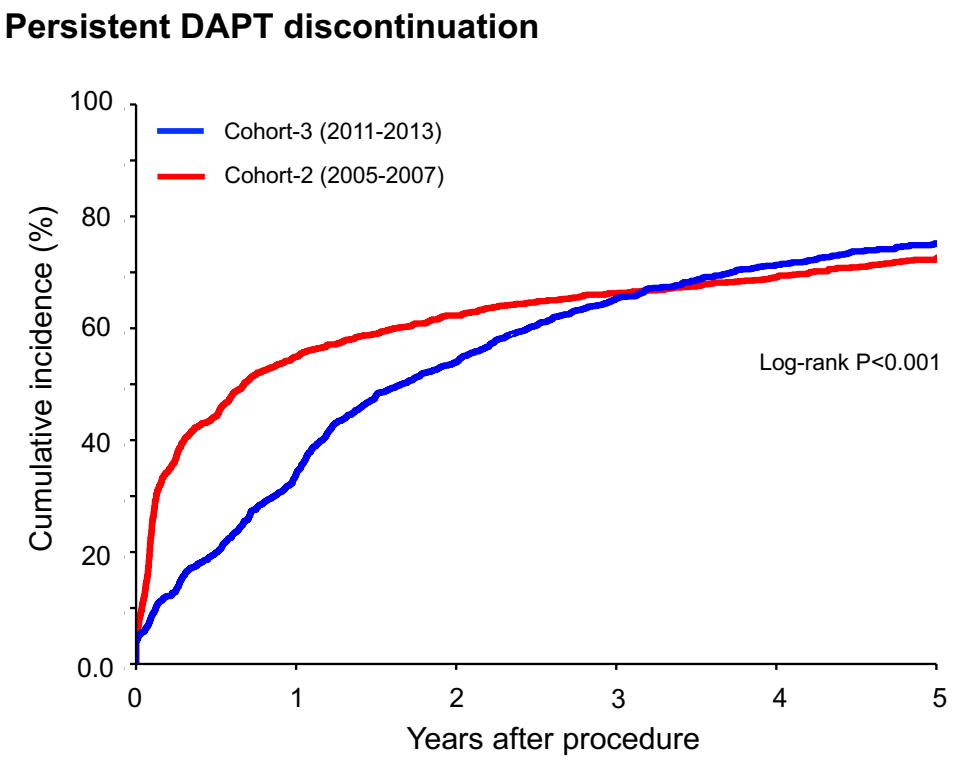


Interval	0 day	30 days	1 year	2 years	3 years
Cohort-3					
N of patients at risk	1440	1308	1188	1123	1048
N of patients with event		92	149	176	200
Cumulative incidence		6.4%	10.6%	12.7%	14.6%
Cohort-2					
N of patients at risk	1453	1358	1256	1194	1132
N of patients with event		69	109	126	146
Cumulative incidence		4.8%	7.6%	8.9%	10.5%



Interval	0 day	7 days	30 days	1 year	2 years	3 years
Cohort-3						
N of patients at risk	1440	1337	1308	1188	1123	1048
N of patients with event		81	92	57	84	108
Cumulative incidence		5.6%	6.4%	4.5%	6.7%	8.7%
Cohort-2						
N of patients at risk	1453	1395	1358	1256	1194	1132
N of patients with event		53	69	40	57	77
Cumulative incidence		3.7%	4.8%	3%	4.4%	6%

Supplemental Figure 4. Kaplan-Meier curves for persistent DAPT discontinuation comparing between Cohort-2 and Cohort-3 in patients who received PCI as the index coronary revascularization procedure



Interval	0 day	30 days	1 year	2 years	3 years	4 years	5 years
Cohort-3							
N of patients at risk	1440	1289	880	585	416	324	233
Cumulative incidence		7.4%	34.0%	53.9%	65.3%	71.3%	75.2%
Cohort-2							
N of patients at risk	1453	1136	592	476	398	340	193
Cumulative incidence		19.4%	54.9%	62.3%	66.3%	69.2%	72.5%

Supplemental Table 1. The annual volume of first coronary revascularization procedures for stable coronary artery disease and acute coronary syndrome in each participating center in the Cohort-2 and Cohort-3

<Cohort-2>	2005		2006		2007	
	PCI	CABG	PCI	CABG	PCI	CABG
Kansai Denryoku Hospital	38	0	62	0	51	0
Kishiwada City Hospital	104	14	115	16	136	10
Kyoto University Hospital	163	18	201	6	158	1
Nara Hospital, Kinki University Faculty of Medicine	115	102	99	87	77	78
Kumamoto University Hospital	60	26	55	26	83	11
Koto Memorial Hospital	70	0	140	0	186	0
Mitsubishi Kyoto Hospital	100	26	105	24	123	31
Shimada Municipal Hospital	46	0	73	0	118	0
Shiga University of Medical Science Hospital	72	0	84	0	58	0
Kagoshima University Medical and Dental Hospital	27	64	34	53	33	49
Juntendo University Shizuoka Hospital	247	34	254	28	247	21
Kokura Memorial Hospital	709	109	674	123	822	127
Kobe City Medical Center General Hospital	203	35	217	45	235	43
Nishi-Kobe Medical Center	93	0	69	0	95	0
Shizuoka General Hospital	175	16	188	21	187	18
Shizuoka City Shizuoka Hospital	183	103	173	87	185	92
Kurashiki Central Hospital	663	53	600	*34*	538	48
Osaka Red Cross Hospital	147	18	157	24	129	22
Tenri Hospital	146	29	134	14	245	24
Shimabara Hospital	94	12	96	8	126	4
Japanese Red Cross Wakayama Medical Center	215	32	233	39	183	25
Hamamatsu Rosai Hospital	97	30	73	38	80	33
Maizuru Kyosai Hospital	145	15	136	16	89	7
University of Fukui Hospital	58	13	68	17	109	7
Hyogo Prefectural Amagasaki Hospital	148	23	184	24	209	20
Kitano Hospital	80	0	64	0	70	0

<Cohort-3>	2011		2012		2013	
	PCI	CABG	PCI	CABG	PCI	CABG
Kansai Denryoku Hospital	96	0	63	0	75	0
Kyoto University Hospital	145	13	138	14	172	5
Nara Hospital, Kinki University Faculty of Medicine	103	81	94	85	79	76
Koto Memorial Hospital	219	0	187	0	204	0
Mitsubishi Kyoto Hospital	119	29	114	30	151	31
Kishiwada City Hospital	124	18	98	11	112	12
Shimada Municipal Hospital	152	0	147	0	130	0
Shiga University of Medical Science Hospital	106	0	100	0	113	0
Juntendo University Shizuoka Hospital	240	13	261	35	258	29
Kokura Memorial Hospital	825	94	767	115	767	97
Kobe City Medical Center General Hospital	196	26	172	38	194	41
Nishi-Kobe Medical Center	84	0	91	0	78	0
Shizuoka General Hospital	183	17	137	19	137	21
Shizuoka City Shizuoka Hospital	255	66	263	69	286	67
Kurashiki Central Hospital	662	24	601	54	601	47
Osaka Red Cross Hospital	156	17	157	17	162	18
Tenri Hospital	201	24	240	30	240	27
Shimabara Hospital	79	0	77	0	77	0
Japanese Red Cross Wakayama Medical Center	195	27	203	19	173	26
Hamamatsu Rosai Hospital	108	22	110	14	132	15
Hyogo Prefectural Amagasaki Hospital	198	13	182	10	203	8
Kitano Hospital	82	17	85	12	99	16

Reference:

1. Matsuo S, Imai E, Horio M, et al. Revised equations for estimated GFR from serum creatinine in Japan. *Am J Kidney Dis*. 2009;53:982-92.

2. Serruys PW, Unger F, Sousa JE, et al. Comparison of coronary-artery bypass surgery and stenting for the treatment of multivessel disease. *N Engl J Med*. 2001;344:1117-24.

3. Kimura T, Morimoto T, Furukawa Y, et al. Long-term safety and efficacy of sirolimus-eluting stents versus bare-metal stents in real world clinical practice in Japan. *Cardiovasc Interv Ther.* 2011;26:234-45.

4. Cutlip DE, Windecker S, Mehran R, et al. Clinical end points in coronary stent trials: a case for standardized definitions. *Circulation*. 2007;115:2344-51.

5. An international randomized trial comparing four thrombolytic strategies for acute myocardial infarction. *N Engl J Med*. 1993;329:673-82.