

Diagnostic accuracy of low-radiation coronary computed tomography angiography with low tube voltage and knowledge-based model reconstruction

Joohee Lee, M.D.^a, Tae Hoon Kim, M.D.^a, Byoung Kwon Lee, M.D.^b, Young Won Yoon, M.D.^b, Hyuck Moon Kwon, M.D.^b, Bum Kee Hong, M.D.^b, Pil-Ki Min, M.D.^b, Eui-Young Choi, M.D.^b, Chi Suk Oh^a, Chul Hwan Park, M.D.^a

^aDepartment of Radiology and Research Institute of Radiological Science, Gangnam Severance Hospital, Yonsei University College of Medicine, Republic of Korea

^bDivision of Cardiology, Heart Center, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, Republic of Korea

Corresponding Author: Chul Hwan Park, M.D.

Address: Department of Radiology, Gangnam Severance Hospital

211 Eonjuro, Gangnam-Gu, Seoul 135-720, Republic of Korea

Tel: 82-2-2019-3510

Fax: 82-2-3462-5472

E-mail: park_chulhwan@yuhs.ac

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Short Title: Low voltage CCTA with model reconstruction

70/F	80	150	497	32	223	dLCx	Low attenuation
60/M	100	150	426	22	594	pLAD	Streak artifact by mixed plaque
						mLAD	Streak artifact by mixed plaque
56/F	100	150	417	25	384	mLAD	Partial volume with adjacent vessel
						RI ^h	Partial volume with adjacent vessel
							Low attenuation
78/F	80	200	604	46	754	D1	Blooming artifact by dense calcified plaque
66/M	100	150	399	28	1196	pRCA ⁱ	Blooming artifact by dense calcified plaque
59/M	100	100	404	23	1019	mRCA ^j	Blooming artifact by dense calcified plaque
						D2 ^k	Partial volume with adjacent vessel
							Low attenuation
75/F	80	100	538	35	1347	mRCA	Blooming artifact by dense calcified plaque

Abbreviations: ^aLeft main coronary artery, ^bProximal left anterior descending artery, ^cMiddle left anterior descending artery, ^dFirst obtuse marginal branch, ^eDistal left circumflex artery, ^fProximal left circumflex artery, ^gFirst diagonal branch, ^hRadmus intermedius, ⁱProximal right coronary artery, ^jMiddle right coronary artery, ^kSecond diagonal branch.

Supplementary Table S2. False negative findings and the factors affecting these CCTA results

Age(y)/ Sex	kVp	mAs	Aorta (HU)	Noise	Calcium score	Location	Affecting factor
66/F	100	150	499	27	29	R-PDA ^a	Distal small branch
67/M	100	150	472	26	820	R-PDA	Distal small branch
60/M	100	150	405	36	1272	RI ^b	Distal small branch
76/M	100	150	505	31	365	OM1 ^c	Distal small branch
65/M	80	200	656	24	1907	dLCx ^d	Distal small branch
55/M	80	150	480	28	462	mLAD ^e	Eccentric calcium
68/M	100	150	400	28	1021	mLAD	Eccentric calcium
						D1 ^f	Distal small branch
71/F	100	150	395	31	414	dLCx	Distal small branch
70/M	100	150	501	24	2036	mLAD	Eccentric calcium
60/M	100	150	426	22	594	dRCA ^g	Distal small branch
						R-PDA	Distal small branch
66/M	100	150	399	28	1196	mLAD	Eccentric calcium
55/M	100	150	477	23	154	dLAD ^h	Distal small branch
						dLCx	Distal small branch
61/M	80	150	467	27	98	dRCA	Distal small branch

Abbreviations: ^aRight posterior descending artery, ^bRadmus intermedius, ^cFirst obtuse marginal branch, ^dDistal left circumflex artery, ^eMiddle left anterior descending artery, ^fFirst diagonal branch, ^gDistal right coronary artery, ^hDistal left anterior descending artery.

Supplementary figure. The qualitative image quality assessment on a four-point scale

- a) Grade 1 (poor/non-diagnostic), severe image degradation or discontinuation of vessel contour that prevented vessel lumen evaluation;
- b) Grade 2 (adequate), moderate image degradation that impeded vessel lumen evaluation;
- c) Grade 3 (good), minor image degradation that did not affect vessel lumen evaluation;
- d) Grade 4 (excellent), no image degradation

