

Supplementary material

Michałowska AM, Skowroński J, Michałowska I, et al. Computed tomographic characteristics of congenital coronary artery fistulas in an adult population. Kardiol Pol. 2023.

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Table S1. Clinical manifestation and tomographic characteristics of coronary artery fistulas based on their site of origin and termination.

	CAFs originating from RCA (n _F =27)	CAFs originating from LAD (n _F =19)	CAFs originating from Cx (n _F =10)	<i>P</i>	CAFs terminating in the right structures of the heart (n _F =13)	CAFs terminating in the pulmonary trunk and pulmonary arteries (n _F =38)	CAFs terminating in the left structures of the heart (n _F =5)	<i>P</i>
	(1)	(2)	(3)		(4)	(5)	(6)	
Age* [years]	56.4 (14.7)	58.5 (12.3)	57.2 (10.7)	0.91	54.1 (14.3)	61.0 (11.6)	53.4 (18.4)	0.67
Sex [male]	13 (48.1)	8 (42.1)	6 (60.0)	0.66	7 (53.8)	17 (44.7)	3 (60.0)	0.74

BMI [kg/m ²]	26.9 (5.3)	25.8 (3.3)	28.9 (6.0)	0.31	26.6 (4.2)	26.9 (5.5)	24.6 (4.3)	0.63
Hypertension	15 (55.6)	10 (52.6)	6 (60.0)	0.93	7 (53.8)	20 (52.6)	4 (80.0)	0.51
Diabetes mellitus	3 (11.1)	1 (5.3)	2 (20.0)	0.48	1 (7.7)	5 (13.2)	0	0.62
Dyslipidemia	9 (33.3)	6 (31.6)	3 (30.0)	0.98	1 (7.7)	16 (42.1)	1 (20.0)	0.06
Smoking history	2 (7.4)	4 (21.0)	2 (20.0)	0.37	2 (15.4)	5 (13.2)	1 (20.0)	0.91
Presence of atherosclerosis								
CAD-RADS <3 [‡]	20 (74.1)	14 (73.7)	8 (80.0)	1.00	13 (100.0)	26 (68.4)	3 (60.0)	0.08
CAD-RADS 3 (50-69%) [‡]	3 (11.1)	2 (10.5)	1 (10.0)		0	6 (15.8)	0	
CAD-RADS 4/5 (≥70%) [‡]	4 (14.8)	3 (15.8)	1 (10.0)		0	6 (15.8)	2 (40.0)	
Concomitant congenital heart diseases	1 (3.7)	2 (10.5)	0	0.43	0	3 (7.9)	0	0.48
Clinical manifestation								
Previous history of AF (acute/chronic)	8 (29.6)	3 (15.8)	3 (30.0)	0.53	6 (46.2)	7 (18.4)	1 (20.0)	0.14
Supraventricular arrhythmia	3 (11.1)	2 (10.5)	1 (10.0)	1.00	1 (7.7)	4 (10.5)	1 (20.0)	0.75
Ventricular arrhythmia	2 (7.4)	2 (10.5)	0	0.58	0	4 (10.5)	0	0.36
Heart failure	9 (33.3)	6 (31.6)	3 (30.0)	0.98	5 (38.5)	11 (28.9)	2 (40.0)	0.76
Previous history of myocardial infarction	3 (11.1)	1 (5.3)	1 (10.0)	0.79	1 (7.7)	2 (5.3)	2 (40.0)	0.04
								4 and 5 vs. 6: 0.06

Pulmonary hypertension	4 (14.8)	2 (10.5)	2 (20.0)	0.79	4 (30.8)	3 (7.9)	1 (20.0)	0.12
Previous history of IE	1 (3.7)	1 (5.3)	1 (10.0)	0.76	3 (23.1)	0	0	0.006
								4 vs. 5 and 6: 0.01
Previous history of sudden cardiac arrest	2 (7.4)	1 (5.3)	1 (10.0)	0.90	1 (7.7)	2 (5.3)	1 (20.0)	0.50
Previous history of PCI	2 (7.4)	1 (5.3)	1 (10.0)	0.89	0	2 (5.3)	2 (40.0)	0.01
								4 and 5 vs. 6: 0.04
Death	4 (14.8)	4 (21.1)	3 (30.0)	0.58	3 (23.1)	7 (18.4)	1 (20.0)	0.94

Values are presented as n (%) or mean (SD).

* age of the patients at which the CT examination was performed

‡ on the basis of CT examination of the coronary arteries

Abbreviation: see Table 1 and 2.

Table S2. Comparison between CAFs ≤ 10 mm and >10 mm

	CAFs ≤10 mm (n _F =46)	CAFs >10 mm (n _F =10)	<i>P</i>
Age* [years]	60.5 (12.6)	50.4 (12.8)	0.03
Sex [male]	20 (43.5)	7 (70.0)	0.17
BMI [kg/m ²]	27.2 (5.4)	25.9 (3.2)	0.47
Hypertension	25 (54.3)	6 (60.0)	>0.99
Diabetes mellitus	5 (10.9)	1 (10.0)	>0.99
Dyslipidemia	17 (37.0)	1 (10.0)	0.14
Smoking history	6 (13.0)	2 (20.0)	0.62
Presence of atherosclerosis:			0.14
CAD-RADS <3 [‡]	32 (69.6)	10 (100.0)	
CAD-RADS 3 (50-69%) [‡]	6 (13.0)	0	
CAD-RADS 4/5 (≥70%) [‡]	8 (17.4)	0	
Concomitant congenital heart diseases	3 (6.5)	0	>0.99
Clinical presentation			
Previous history of AF (acute/chronic)	10 (21.7)	4 (40.0)	0.25
Supraventricular arrhythmia	5 (10.9)	1 (10.0)	>0.99

Ventricular arrhythmia	4 (8.7)	0	>0.99
Heart failure	14 (30.4)	4 (40.0)	0.71
Previous history of myocardial infarction	4 (8.7)	1 (10.0)	>0.99
Pulmonary hypertension	4 (8.7)	4 (40.0)	0.03
Previous history of IE	0	3 (30.0)	0.004
Previous history of sudden cardiac arrest	3 (6.5)	1 (10.0)	0.56
Previous history of PCI	4 (8.7)	0	>0.99
Surgical or percutaneous closure of CAF	5 (10.9)	4 (40.0)	0.04
Death	8 (17.4)	3 (30.0)	0.39

Tomographic evaluation

Site of origin:			0.19
RCA	21 (45.7)	6 (60.0)	
LAD	18 (39.1)	1 (10.0)	
Cx	7 (15.2)	3 (30.0)	
Site of termination [CS]	0	4 (40.0)	<0.001
Multiple CAFs [>1]	25 (54.3)	1 (10.0)	0.01
Type of CAF [CVF]	41 (89.1)	7 (70.0)	0.14

Complex CAF	26 (56.5)	1 (10.0)	0.01	Values are presented as n (%) or mean (SD).
Bilateral CAF	21 (45.7)	1 (10.0)	0.07	*age of the patients at which the CT examination was performed
Tortuous CAF	35 (76.1)	9 (90.0)	0.67	
Aneurysm formation	6 (13.0)	3 (30.0)	0.34	‡on the basis of CT examination of the coronary arteries
Vascular calcification within CAF	0	5 (50.0)	<0.001	Abbreviations: see Table 1 and 2.
Presence of visible thrombus	1 (2.2)	0	>0.99	

Table S3. Comparison between patients without and with atherosclerosis (<50% or ≥50% diameter stenosis)

	CAFs without atherosclerotic lesions (CAD-RADS 0) (n _p =20)	CAFs with atherosclerotic lesions <50% (CAD-RADS 1-2) (n _p =10)	CAFs with atherosclerotic lesions ≥50% (CAD-RADS 3-5) (n _p =12)	<i>P</i>
Age* [years]	48.8 (12.2)	65.2 (12.0)	65.5 (8.4)	<0.001
Sex [male]	9 (45.0)	3 (30.0)	8 (66.7)	0.23
BMI [kg/m ²]	27.4 (5.5)	25.6 (4.0)	27.8 (5.1)	0.58
Hypertension	10 (50.0)	5 (50.0)	8 (66.7)	0.63
Diabetes mellitus	2 (10.0)	1 (10.0)	1 (8.3)	0.99
Dyslipidemia	5 (25.0)	3 (30.0)	5 (41.7)	0.62
Smoking history	3 (15.0)	1 (10.0)	1 (8.3)	0.84
Concomitant congenital heart diseases	1 (5.0)	1 (10.0)	0	0.57
Clinical presentation				
Previous history of AF (acute/chronic)	3 (15.0)	4 (40.0)	3 (25.0)	0.32
Supraventricular arrhythmia	4 (20.0)	1 (10.0)	0	0.24

Ventricular arrhythmia	1 (5.0)	1 (10.0)	0	0.56
Heart failure	3 (15.0)	5 (50.0)	4 (33.3)	0.13
Previous history of myocardial infarction	4 (20.0)	0	0	0.09
Pulmonary hypertension	2 (10.0)	2 (20.0)	1 (8.3)	0.69
Previous history of IE	1 (5.0)	2 (20.0)	0	0.18
Previous history of sudden cardiac arrest	1 (5.0)	0	0	0.58
Surgical or percutaneous closure of CAF	3 (15.0)	2 (20.0)	1 (8.3)	0.74
Death	1 (5.0)	3 (30.0)	3 (25.0)	0.15

Tomographic evaluation

n _F (%)	28 (50.0)	14 (25.0)	14 (25.0)	0.03
Number of CAFs [>1]	14 (50.0)	8 (57.1)	4 (28.6)	0.28
Size of CAFs [>10 mm]	7 (25.0)	3 (21.4)	0	0.06
Complex CAF	14 (50.0)	9 (64.3)	4 (28.6)	0.3
Bilateral CAF	10 (35.7)	8 (57.1)	4 (28.6)	0.87
Tortuous CAF	21 (75.0)	12 (85.7)	11 (78.6)	0.7
Aneurysm formation	5 (17.9)	4 (28.6)	0	0.23
Vascular calcification within CAF	2 (7.1)	3 (21.4)	0	0.67

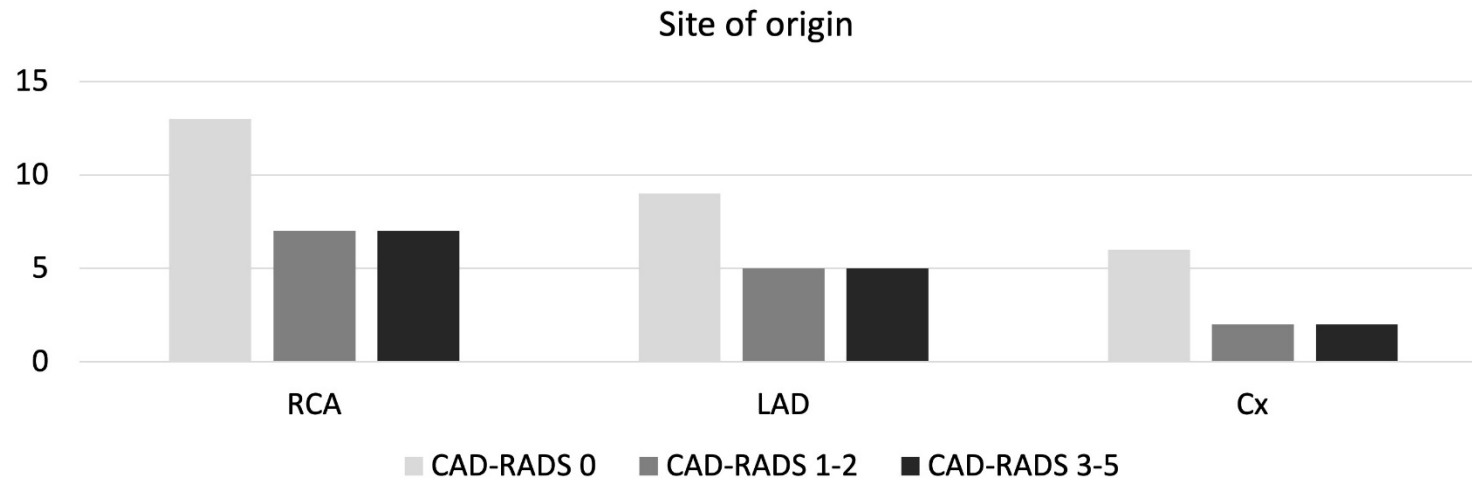
Presence of visible thrombus	1 (3.6)	0	0	0.37	Values are presented as n (%) or mean (SD).
LD _{max} CAFs [mm]	7.0 (4.9)	8.7 (8.0)	3.1 (1.1)	0.2	

*age of the patients at which the CT examination was performed

‡on the basis of CT examination of the coronary arteries

Abbreviations: see Table 1. LD = lumen diameter; n_F = number of fistulas; n_P = number of patients

A



B

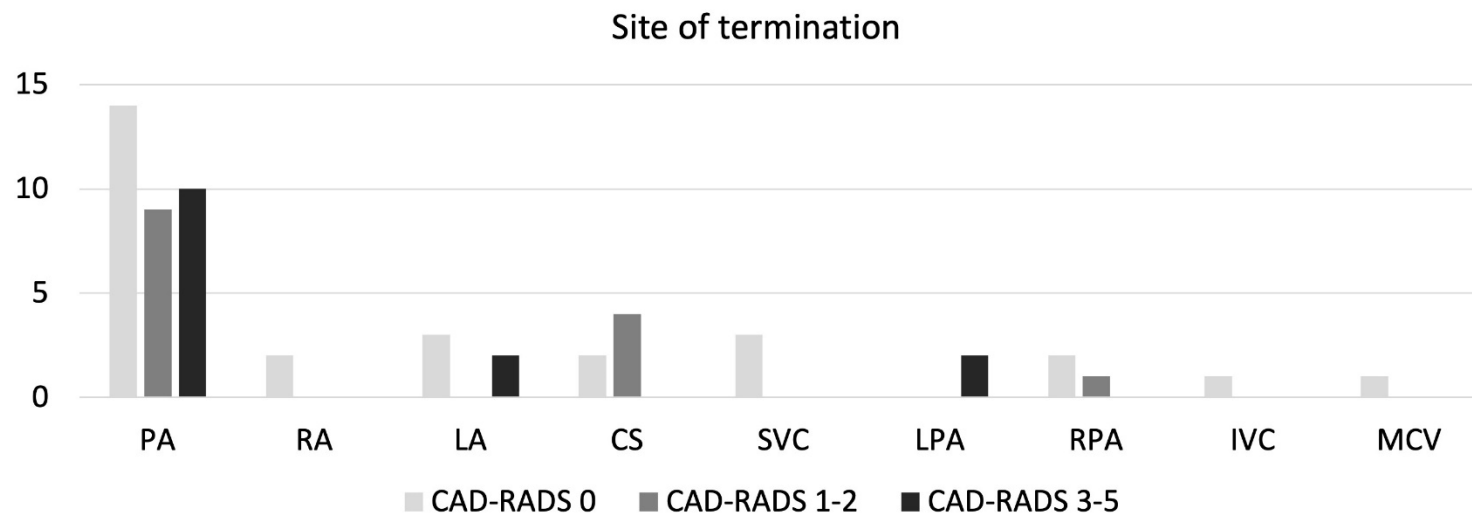


Figure S1. Site of origin (A) and termination (B) of CAFs with and without atherosclerosis

Abbreviations: see [Figure 4](#)