Registre ANOCOR

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Anomalous connections of the coronary arteries: a prospective observational cohort of 472 adults. The ANOCOR Registry.

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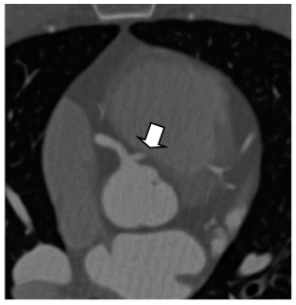
Purpose

•Anomalous connections of the coronary arteries (ANOCOR) are rare. Management of high-risk ANOCOR may be difficult and the need of risk stratification model is recognized. Large scale multicenter registries dedicated to these congenital abnormalities are lacking. The multicenter ANOCOR Registry provides prospective collection of contemporary data regarding the profile of patients with ANOCOR.

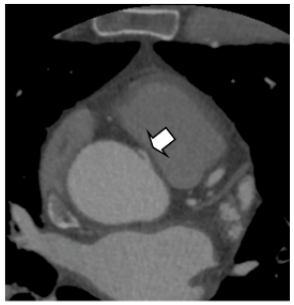
Patients and Methods

- Consecutive patients presenting to French interventional cardiologists (n=71) during the recruitment period (January 2010-January 2013)
- ANOCOR documented by selective coronary angiography and/or cardiac computed tomography angiography and validated by an angiographic analysis committee
- Exclusion criteria: age <15 years, congenital great vessel disease, or distal anomalous connection such as coronary fistula
- Endpoints: circumstances of diagnosis, frequency of each type of ANOCOR, frequency of anatomical high-risk feature, and prevalence of significant CAD (stenosis ≥50%)
- Anatomical high-risk feature: ANOCOR with preaortic course
- Ectopic segment: distance between the proximal anomalous connection and the point where the coronary artery meet up with an appropriate myocardial area

Examples



Left ANOCOR (white arrow) with retropulmonar course (non high-risk feature)



Right ANOCOR (white arrow) with preaortic course (high-risk feature)

Results

472 patients (71.6% male) were enrolled with a mean age 63±13 years (16-95 years). Young patients (≤35 years of age) were few (n=11). Clinical presentation was confirmed or suspected coronary artery disease in 62.5% (n=295). Twelve (2.5%) aborted sudden deaths were observed (table 1). Single ANOCOR was identified in 450 patients and multiple ANOCOR in 22 patients. Among 496 ANOCOR, 235 involved the circumflex coronary artery (table 2). Connection with opposite sinus or contralateral artery was noticed in 90.8% (n=451). Preaortic course was present in 30.8% involving the ectopic right coronary artery essentially (table 3). Significant CAD was present in 205 patients (43.5%) regarding the non ANOCOR arteries. Prevalence of a significant coronary artery disease seems lower in the ectopic segment of ANOCOR in comparison with the non ectopic segment.

Table 1

Clinical presentation (n=472)

Asymptomatic (n, %)	39 (8.3)
Confirmed or suspected CAD (n, %)	295 (62.5)
Atypical chest pain (n,%)	77 (16.3)
Cardiomyopathy or valvulopathy (n, %)	78 (16.5)
Shortness of breath (n, %)	141 (29.9)
Dizziness (n, %)	38 (8.1)
Palpitations (n, %)	42 (8.9)
Syncope (n, %)	12 (2.5)
Aborted sudden death (n, %)	12 (2.5)

Table 2

Type of ANOCOR (n=496)

Left main coronary artery (n, %)	60 (12.1)
LAD coronary artery (n, %)	27 (5.4)
Circumflex coronary artery (n, %)	235 (47.4)
Right coronary artery (n, %)	165 (33.3)
Other	9 (1.8)

Table 3

Type of course (n=496)

Left main or LAD coronary artery (n=87)	
Prepulmonar course (n, %)	26 (29.9)
Retropulmonar course (n, %)	37 (42.5)
Preaortic course (n, %)	5 (5.7)
Retroaortic course (n, %)	12 (13.8)
Other course (n, %)	7 (8.1)
Circumflex coronary artery (n=235)	
Retroaortic course (n, %)	228 (97.0)
Other course (n, %)	7 (3.0)
Right coronary artery (n=165)	
Preaortic course (n, %)	148 (89.7)
Other course (n, %)	17 (10.3)

Conclusions

Anatomical high-risk feature is uncommon in young people and adults with a left ANOCOR. Discovery of a right ANOCOR associated with a preaortic course is not rare in >35 years of age, and is often fortuitous. Analysis of the management of high-risk ANOCOR will be the next step of the ANOCOR Registry, a large ongoing multicenter study.

The authors have no conflicts of interest to declare.

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ESC 2015

Observer variability in the classification of congenital coronary abnormalities by invasive and CT coronary angiography: substudy of the anomalous connections of the coronary arteries (ANOCOR) registry

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GACI
Groupe Athérome et Cardiologie Interventionnelle de la Société Française de Cardiologie
ESC CONGRESS ROME 2016 #esccongress www.escardio.org/ESC2016

Results

Type of artery: 472 ANOCOR (95%) analyzed

κ = 0.92, 95% CI: 0.86-0.98; p<0.05

Excellent interobserver agreement

Site of connection: 393 ANOCOR (79%) analyzed

κ = 0.50, 95% CI: 0.42-0.57; p<0.05

Moderate interobserver agreement

Initial course: 443 ANOCOR (89.3%) analyzed

κ = 0.32, 95% CI: 0.28-0.37; p<0.05

Fair interobserver agreement

Preaortic course or not: 141 ANOCOR (91.6%) analyzed

κ = 0.497, 95% CI: 0.40-0.59; p<0.05

Moderate interobserver agreement

Parameters	
Number of subjects, n	472
Mean age, years (SD)	63 (13)
Invasive CA alone, n (%)	297 (62.9)
Computed tomography CA alone, n (%)	20 (4.3)
Invasive + computed tomography CA, n (%)	155 (32.8)
Total number of anomalous connections	**496**
Type of artery	
Left main, n (%)	60 (12.1)
Left anterior descending, n (%)	27 (5.4)
Circumflex, n (%)	**235 (47.4)**
Right, n (%)	165 (33.3)
Other, n (%)	9 (1.8)
Site of connection	
Opposite sinus or contralateral artery, n (%)	**451 (90.8)**
Appropriate sinus	4 (0.8)
Non-coronary sinus	2 (0.4)
High take off ascending aorta	29 (6.0)
Single coronary artery	6 (1.2)
Pulmonary artery	4 (0.8)
Initial course	
Prepulmonary, n (%)	30 (6.0)
Retropulmonary, n (%)	46 (9.3)
Preaortic, n (%)	**154 (31.1)**
Retroaortic, n (%)	242 (48.8)
Other, n (%)	7 (1.4)
Undetermined, n (%)	3 (0.6)

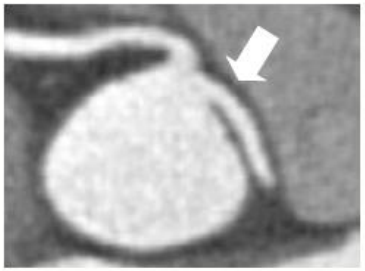
angiographic committee

Investigators

	preaortic course	other courses	total
preaortic course	78	27	105
other courses	63	275	338
total	141	302	443

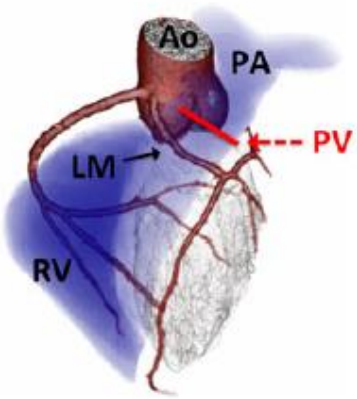
PP: prepulmonary
RP: retropulmonary
PA: preaortic
RA: retroaortic
N: normal
UN: undetermined

Left ANOCOR with retropulmonary course

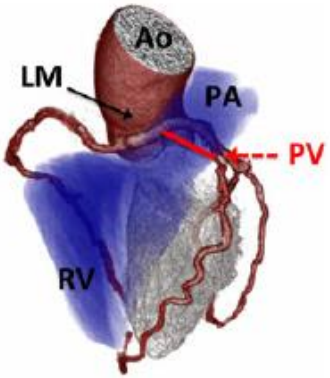


Left ANOCOR with preaortic course

Subpulmonic



Interarterial



Cheezum et al. JACC 2017

DIU de Cardiologie Interventionnelle

PRISE EN CHARGE DES ANOMALIES CORONAIRES CONGENITALES (ANOCOR) A RISQUE

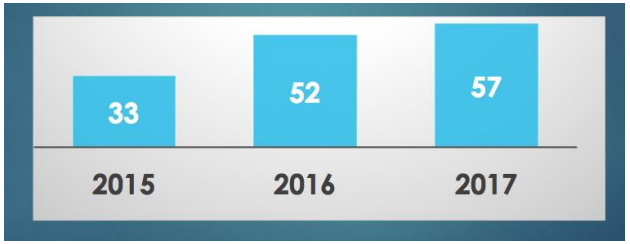
ACTIVITE D'UN CENTRE DE REFERENCE

Présenté par
Mohamed BACCOUCHE

Encadré par
Pierre AUBRY

Centre Hospitalier de GONESSE

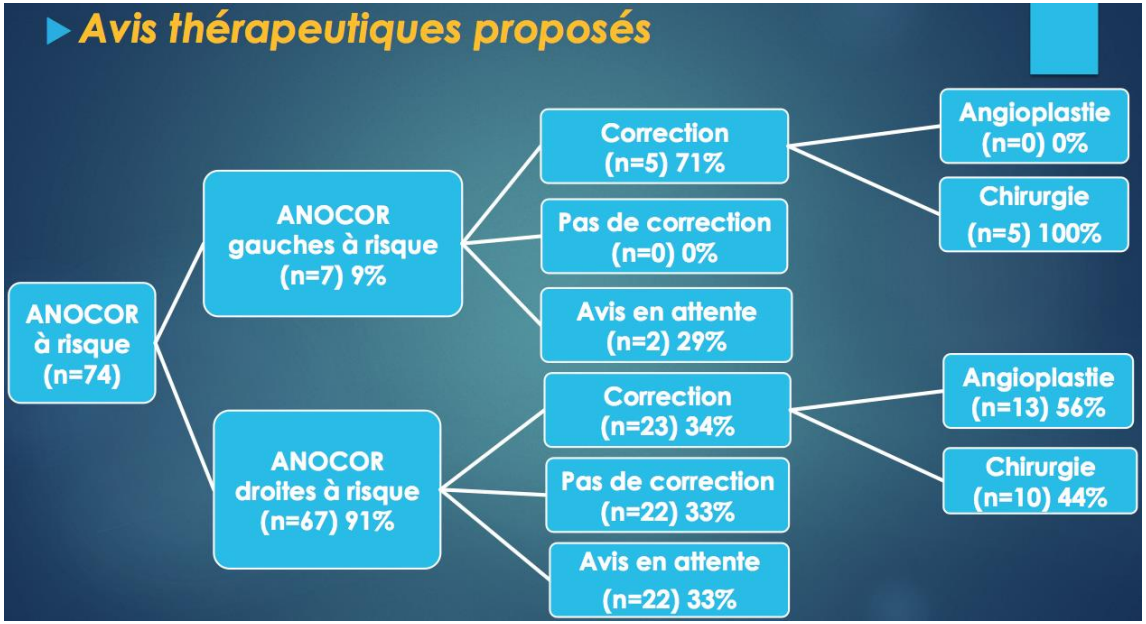
Lille 01/06/2018



Méthodes

- Dossiers adressés à un groupe multidisciplinaire pour émettre un avis sur la classification et la prise en charge de l'ANOCOR.
- Groupe de travail formé de cardiologues et de radiologues ayant une expertise dans l'imagerie cardiovasculaire.
- Période d'étude de trois ans (janvier 2015 et décembre 2017).
- **122** dossiers analysés avec exclusion des variantes anatomiques (n=8) et des anomalies de connexion distale (n=4).
- **110** patients et **120** anomalies de connexion proximale étudiés.

Avis thérapeutiques proposés



Avis sur la pratique sportive

ANOCOR à risque		Restriction de la pratique sportive		
		oui	non	NPSP
en attente d'examens complémentaires (n=24)	ANOCOR gauches (n=2)	2 (100%)	0	0
	ANOCOR droites (n=22)	17 (77%)	3 (14%)	2 (9%)
sans proposition de correction (n=22)	ANOCOR gauches (n=0)	0	0	0
	ANOCOR droites (n=22)	17 (77%)	5 (23%)	0

Groupe de travail ANOCOR
Anomalies de connexion des artères coronaires
Pierre Aubry, Patrick Dupouy, Xavier Halna du Fretay
Fabien Hyafil, Jean-Michel Juliard, Jean-Pierre Laissy, Phalla Ou
Groupe Hospitalier Bichat-Claude Bernard, Paris

[redacted]

Paris, le 29 mai 2017

Chère Marina,

Je te joins l'avis du staff ANOCOR du lundi 15/05/2017 concernant M[redacted] 05/05/1995 dont le dossier a été présenté à un staff précédent :

rappel clinique
homme de 21 ans d'origine de Côte d'Ivoire
pas de facteurs de risque
pas d'antécédents cardiaques jusqu'en 2016
signale en juillet 2016 une douleur thoracique avec lipothymie lors d'un effort sportif (football)
altération état général + asthénie + dyspnée en août 2016 avec transfert en France en septembre 2016
prise en charge en médecine interne (CHU BICHAT)
diagnostic d'épanchement péricardique avec tamponnade nécessitant un drainage chirurgical
étiologie rapportée à une tuberculose
lors d'un scanner thoracique découverte d'une anomalie de connexion de la coronaire droite

scanner coronaire
connexion ectopique de la coronaire droite dans le tronc commun
trajet préaortique avec rétrécissement initial < 50%
pas de passage intramural aortique évident

coronarographie avec échographie endocoronaire
absence de lésion athéromateuse
ostium coronaire unique dans le sinus gauche
anomalie de connexion de la coronaire droite dans le tronc commun juxtaostial
exploration par échographie endocoronaire
trajet préaortique sans passage intramural aortique
ostium ovoide (4.4x2.2 mm) avec réduction en surface d'environ 35%

bilan secondaire
IRM cardiaque : aspect de péricardite aiguë non constrictive avec atteinte myocardique modérée par contiguïté, fonction ventriculaire gauche conservée, pas d'anomalie de perfusion dans le territoire inférieur
scintigraphie myocardique d'effort : négative électriquement et électriquement à 150 watts sans ischémie

conclusions du staff du 27/02/2017
connexion ectopique de la coronaire droite dans le tronc commun
trajet préaortique sans passage intramural aortique
forme anatomique reconnue à risque d'ischémie/mort subite
découverte fortuite de l'anomalie si on considère que la symptomatologie d'effort en juillet 2016 pouvait être en rapport avec la péricardite

propositions du staff du 27/02/2017 selon nos connaissances actuelles
pas d'indication actuelle à une correction de l'anomalie (découverte à priori fortuite)
restriction conseillée sur les efforts physiques intenses et/ou en compétition
attitude à adapter si symptomatologie d'effort post-convalescence et/ou souhait du patient de poursuivre une activité sportive intense avec compétition

évolution
lors d'une consultation récente : patient signalant des douleurs invalidantes à l'effort
ECG : anomalies stables de la repolarisation avec onde T négative apicoinférolatérale
échocardiogramme (mars 2017) : sans particularité
test d'effort (avril 2017) : positif cliniquement à 120 watts (nécessitant arrêt) sans anomalie péjorative de la repolarisation

nouvelles proposition du staff du 15/05/2017
indication à une correction de l'anomalie coronaire (forme à risque/symptomatologie d'effort) plutôt par chirurgie (âge < 30 ans)

Amicalement à toi et merci de nous tenir au courant des suites données à ce dossier.

Docteur Pierre AUBRY pour le staff ANOCOR

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Anomalous connection of the right coronary artery with interarterial course: Preliminary prospective experience of stenting in selected adults

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Background

- Anomalous connections of the coronary arteries (ANOCOR) with interarterial course raise therapeutic problems.
- Current guidelines recommend a surgical repair for right ANOCOR with evidence of ischemia. The lack of controlled studies and the scarcity of long-term data may explain an underutilization of surgical treatment.
- A percutaneous approach may provide an interesting alternative in a selected adult population.

Purpose

- To assess the feasibility and safety of preaortic segment stenting in right ANOCOR with interarterial course.

Methods

- Ten patients were prospectively included between 2014 and 2016.
- Stenting was proposed according to predefined criteria (age >30 years, symptoms or documented ischemia, no history of aborted sudden death, ostial ovoid shape) for patients referred to an expert group.
- All patients underwent selective coronary angiography and coronary computed tomography.
- Evaluation by intravascular ultrasound (IVUS) or optical coherence tomography (OCT) was recommended.

Results

Table 1 : Baseline characteristics

	N=10
Mean age (years)	56 (35-81)
Presentation	
ACS (%)	2 (20)
Stable angina (%)	5 (50)
Silent ischemia (%)	2 (20)
Syncope (%)	1 (10)
Anatomic feature	
Intramural segment (%)	5 (50)

Table 2 : Procedural characteristics and outcomes

	N=10
Successful stenting (%)	10 (100)
DES use (%)	9 (90)
Mean fluoroscopic time (min)	18
IVUS/OCT guidance (%)	7 (70)
Mean troponin (microg/L) at day 1	0.58
Periprocedural complications (%)	0 (0)
Outcomes	
MACE at 12-month follow-up (%)	0 (0)
New hospitalization for persistent angina (%)	1 (10)

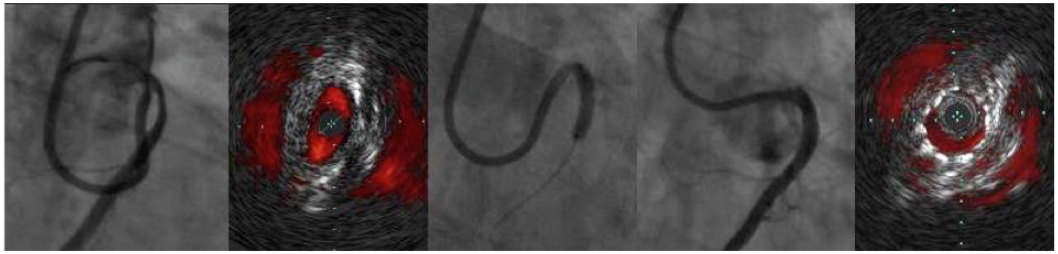


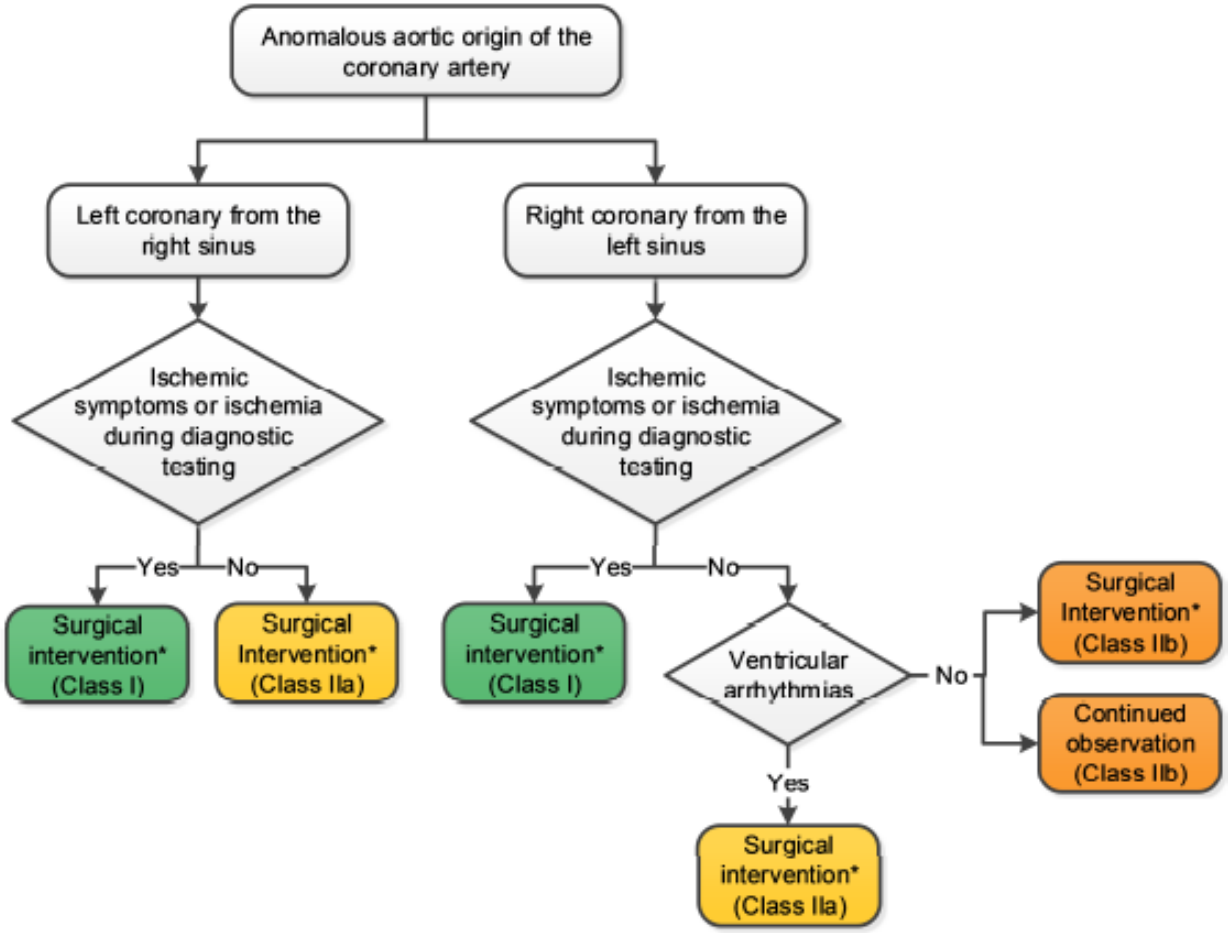
Figure 1: angiography at baseline | Figure 2: IVUS at baseline | Figure 3: stenting | Figure 4: final angiography | Figure 5: final IVUS

CONCLUSIONS

- Preaortic segment stenting of right ANOCOR with interarterial course appears feasible and safe in this preliminary experience.
- A longer follow-up and a more important population are needed to know whether this technique is suitable for a next therapeutic algorithm.

JESFC 2018

Figure 5. Anomalous Aortic Origin of the Coronary Artery



Outcome of Unroofing Procedure For Repair of Anomalous Aortic Origin of Left or Right Coronary Artery

(Ann Thorac Surg 2003;76:589–96)

Robert L. Romp, MD, J. René Herlong, MD, Carolyn K. Landolfo, MD, Stephen P. Sanders, MD, Coleen E. Miller, PNP, Ross M. Ungerleider, MD, and James Jaggers, MD

fuite aortique post-opératoire 1/9

THÈSE
POUR LE DIPLÔME D'ÉTAT
DE
DOCTEUR EN MÉDECINE
PAR

NOM : GAILLARD Prénoms : Maïra, Edith, Héloïse
Date et Lieu de naissance : 21/05/1988 à Bagnolet

Présentée et soutenue publiquement le : 06 Octobre 2017

ANOMALIES DE NAISSANCE DES ARTERES CORONAIRES A PARTIR DE L'AORTE

Patient	*Sexe*	*Age*	*Symptômes*	*Type d'anomalies coronaires*	*Segment intramural*	*Trajet intraseptal*	*Geste chirurgical*	*Complications ischémiques précoces*	*Complications ischémiques tardives*	*Anévrysmes du patch*	*Geste(s) effectué(s)*
1	F	4	Douleur thoracique d'effort et de repos	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
2	H	5	Dyspnée d'effort	CG naissant du SD	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
3	H	6	Douleur thoracique d'effort	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
4	F	34	ACR sur Fibrillation ventriculaire	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
5	F	9	Aucun	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
6	H	43	Douleur thoracique d'effort et de repos	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
7	H	4	Aucun	CG naissant du SD	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
8	H	14	Aucun	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
9	F	45	Douleur thoracique d'effort et de repos	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
10	H	9	Douleur thoracique d'effort	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Sténose ostiale de la CD à 1 an asymptomatique	Non	Angioplastie de l'ostium de la CD
11	H	15	Douleur thoracique d'effort	CG naissant du SD	Non	Non	Plastie ostiale	Non	Non	Non	Aucun
12	F	39	Douleur thoracique d'effort	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
13	H	30	Infarctus du myocarde et syncope	CG naissant du SD	Non	Non	Plastie ostiale	Non	Non	Non	Aucun
14	H	6	Douleur thoracique d'effort	CD naissant du SD	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
15	H	5	Aucun	CD naissant du SG	Non	Non	Plastie ostiale	Non	Non	Non	Aucun
16	H	10	Douleur thoracique de repos	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Non	Aucun
17	H	17	ACR	CG naissant du SD	Oui	Non	Plastie ostiale	Non	Non	Oui	Aucun
18	H	13	Aucun	CD naissant du SG	Oui	Non	Plastie ostiale	Non	Non	Oui	Anévrysmoraphie à 1an et demi
19	H	43	Douleur thoracique et dyspnée d'effort, syncope	CD naissant du SG	Oui	Non	Section-Réimplantation	Non	Non	Non	Aucun
20	F	19	Douleur thoracique d'effort et de repos	CD naissant du SG	Oui	Non	Section-Réimplantation	Non	Non	Non	Aucun
21	F	43	Douleur thoracique d'effort et de repos	CD naissant du SG	Oui	Non	Section-Réimplantation	Non	Non	Non	Aucun
22	H	19	Aucun	CD naissant du SG	Non	Non	Section-Réimplantation	Non	Non	Non	Aucun
23	H	7	Douleur thoracique d'effort et de repos	CD naissant du SG	Non	Non	Section-Réimplantation	Thrombose CD peropératoire	Resténose intrastent	Non	Angioplastie et stenting à la phase aigue et à distance
24	H	10	Aucun	CD naissant du SG	Oui	Non	Section-Réimplantation	Non	Non	Non	Aucun
25	F	18	Douleur thoracique et dyspnée d'effort	CD naissant du SG	Oui	Non	Section-Réimplantation	Non	Non	Non	Aucun
26	H	26	Fibrillation ventriculaire	CD naissant du SG	Non	Non	Section-Réimplantation	Non	Non	Non	Aucun
27	H	48	Douleur thoracique d'effort	CD naissant du SG	Oui	Non	Section-Réimplantation	Non	Non	Non	Aucun
28	H	11	Douleur thoracique d'effort	CD naissant du SG	Non	Non	Section-Réimplantation	Non	Non	Non	Aucun
29	H	14	Douleur thoracique et dypnée d'effort	CG naissant du SD	Non	Non	Section-Réimplantation	Non	Non	Non	Aucun
30	H	66	Dyspnée d'effort	CG naissant du SD	Non	Oui	Variante intraseptal : Libération du trajet intraseptal puis réimplantation dans le SG et Mobilisation du culot pulmonaire	Sténose de l'anastomose CG à J2	Insuffisance cardiaque chronique	Non	Angioplastie et stenting à la phase aigue
31	H	21	Douleur thoracique et dyspnée d'effort	CG naissant du SD	Non	Oui	Variante intraseptal : Libération du trajet intraseptal puis réimplantation dans le SD et Mobilisation du culot pulmonaire	Non	Non	Non	Aucun

Evaluation of the hemodynamic impact of different forms of anomalous connection of coronary artery using Computed Tomography derived Fractional Flow Reserve

ESC 2018

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Background
Anomalous connection of coronary artery (ANOCOR) has been associated with adverse cardiac events in young patients. Indications to surgical correction are based on the initial course of the ANOCOR. Stress tests do often not evidence any myocardial ischemia in these patients; fractional flow reserve (FFR) is difficult to measure invasively in the proximal segment of ANOCOR. Computed Tomography derived Fractional Flow Reserve (FFR-CT) is a non-invasive functional test providing anatomical and functional evaluation of the overall coronary tree. These unique features could help to tackle difficult decisions in patients presenting ANOCOR.

Purpose.
We aimed to evaluate the hemodynamic impact of different types of ANOCOR using FFR-CT in a large multi-centric cohort of patients.

Methods.
The multi-centric ANOCOR registry included 476 adult patients with ANOCOR detected during coronary angiogram or computed tomography (CT). Among the latter 106 patients were evaluated with a coronary CT angiography (CCTA) at the time of inclusion. Patients with anomalous connection from the pulmonary arterial trunk were excluded from the analysis. All CCTA were sent to Heartflow for extraction of FFR-CT values in ANOCOR and non-ANOCOR vessels using their dedicated software.

Results.
FFR-CT values could be obtained in 60 patients; 56 patients could not be processed because of insufficient image quality. Mean age of patients was 58 ± 14 years, 47 (78%) were male.
Preaortic (so-called interarterial), retroaortic, subpulmonar and prepulmonar courses were observed respectively in 34 (53%), 16 (27%), 6 (8%) and 4 (8%) patients.

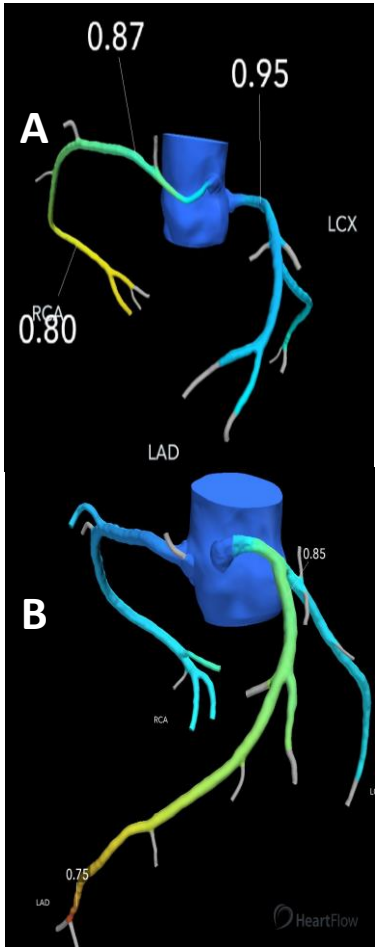

Figure. A. Representative example of a patient with pre-aortic course of the RCA with no significant hemodynamic impact at its origin but bordeline value at the distal segment of the RCA.
B. Representative example of a patient with pre-aortic course of the LM with no significant hemodynamic impact at its origin but bordeline value at the distal segment of the LAD.

Mean FFR-CT values were 0.82 ± 0.11 in preaortic, 0.85 ± 0.08 in retroaortic, 0.81 ± 0.16 in subpulmonar, and 0.83 ± 0.12 in prepulmonar courses. No statistical difference was observed between the values of FFR-CT measured for the different courses (P > 0.05).

The ANOCOR involved the left main/left anterior descending (LM/LAD) in 10 patients (17%), the left circumflex (LCx) in 11 patients (18%) and the right coronary artery (RCA) in 39 patients (65%). In ANOCOR vessels, mean FFR values in LM/LAD, LCx and RCA were respectively 0.81 ± 0.13, 0.81 ± 0.12 and 0.83 ± 0.11 (p > 0.05 for all). Mean FFR-CT value was measured at 0.90 ± 0.09 at the end of the abnormal course of the ANOCOR vessel. Mean FFR-CT value measured at the distal segment of the ANOCOR vessel was significantly lower compared to the value measured in the non-ANOCOR vessels (0.83 ± 0.10 vs. 0.87 ± 0.09, respectively, p = 0.0003).

Conclusions.
FFR-CT demonstrated a moderate hemodynamic impact on coronary flow of the different forms of ANOCOR including the preaortic course, but FFR values remained superior to the 0.80 cut-off value in most of the patients. Long-term follow-up of patients included in this cohort is on-going and will help to define whether FFR-CT might help to improve risk stratification in the ANOCOR population.

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CARDIOVASCULAR FLASHLIGHT

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Non-invasive FFR_{CT} revealing severe inducible ischaemia in an anomalous right coronary artery

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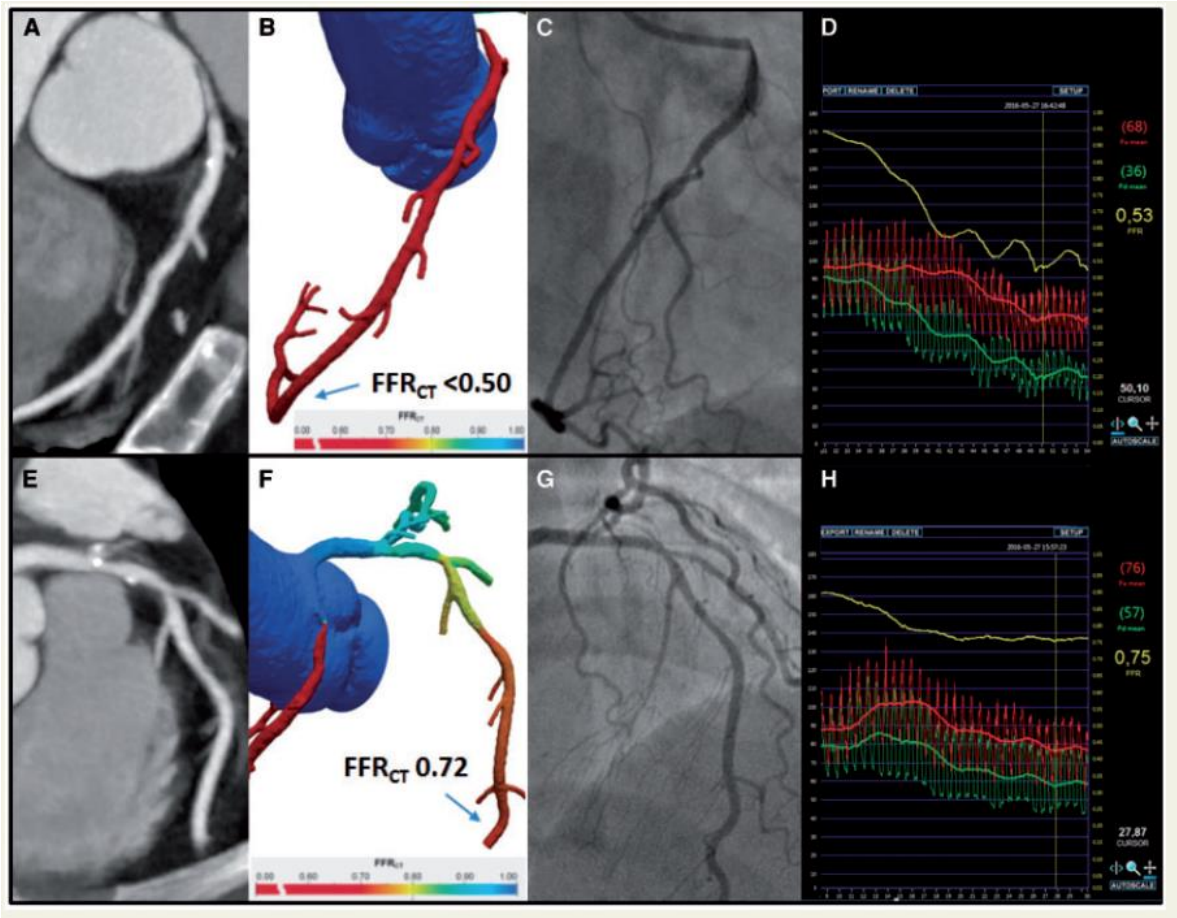

Anomalous coronary artery originating from the opposite sinus of Valsalva (ACAOS), fractional flow reserve- and intravascular ultrasound-guided management in adult patients

TABLE 1 Diagnostic evaluation of ACAOS patients

Subject	Age	Type of ACAOS	Presentation	FFR	IVUS	Cross sectional area stenosis	Heart-team decision	Event free Follow-up	Resolution of complaints
1	51	R	Atypical	0,76	Slitlike orifice		Unroofing	62	Yes
2	54	R	Atypical	0,94	Mild atherosclerosis		Conservative	53	Yes
3	58	R	AVNRT with positive troponin	0,9	Normal		Conservative	52	Had no complaints
4	56	R	Atypical	0,87	Slitlike orifice		Conservative	49	Yes
5	55	L	Routine X-ECG	0,88	Mild atherosclerosis		Conservative	49	Had no complaints
6	43	R	Atypical	0,59	Slitlike orifice		Unroofing	48	Yes
7	38	R	Ventricular Fibrillation	0,52	Slitlike orifice, coronary compression		Unroofing	48	Yes
8	54	L	Atypical	0,80	Normal		Unroofing switched to CABG	47	Dubious
9	57	R	Atypical	0,86	Slitlike orifice	14%	Conservative	45	Yes
10	45	R	Atypical	0,9	Mild atherosclerosis	15%	Conservative	44	Persisting atypical complaints
11	56	L	Takotsubo	0,9	Slitlike orifice		Conservative	44	Persisting atypical complaints
12	52	R	Atypical	0,84	Slitlike orifice		Conservative	44	Yes (after esophageal dilatations)
13	52	R	Atypical	0,81	Slitlike orifice		Conservative	38	Yes
14	62	R	Angina	0,82	Slitlike orifice		Unroofing	39	Declined operation
15	61	R	Routine X-ECG	0,93	Slitlike orifice	21%	Conservative	37	Had no complaints
16	36	R	Atypical	0,89	Slitlike orifice		Conservative	36	Yes
17	56	R	Angina	0.93	Slitlike orifice, coronary compression	67%	Unroofing	31	Yes
18	50	R	Angina	0,92 proximal RCA 0,78 mid RCA	Significant atherosderotic lesion of mid RCA	10%	pci mid RCA	31	Yes
19	48	R	Angina, collapse	0.85	Slitlike orifice	39%	Unroofing	30	Yes
20	50	R	Atypical	0,88	Slitlike orifice		Conservative	19	Persistend fatique
21	52	R	Atypical	0,86	Slitlike orifice	41%	Conservative	19	Yes
22	60	R	Angina	0,86	Slitlike orifice	48%	Unroofing	16	Yes
23	30	R	ACS with collapse	0,78	Slitlike orifice		Unroofing	13	Yes
24	58	R	Atypical	0,88	Slitlike orifice		Conservative	11	Unknown
25	52	R	Atypical	0,77	Slitlike orifice, coronary compression	61%	Unroofing	10	Yes
26	52	R	Angina	0,83	Slitlike orifice, coronary compression	11%	Unroofing	5	Yes
27	64	R	Routine X-ECG	0,96	Slitlike orifice	6%	Conservative	4	Had no complaints
28	55	R	Angina	0,91	Slitlike orifice, significant lesion of LAD	13%	pci LAD	4	Yes
29	58	L	Angina	0,74	Slitlike orifice		Unroofing	2	Yes
30	39	L	Angina	0,85	Significant atherosderotic lesion of mid LAD		pci mid LAD	0	Yes

L = L-ACAOS; R = R-ACAOS; FFR = fractional flow reserve; IVUS = intravascular ultrasound; IVUS = intravascular ultrasound.
Left ACAOS in subjects 5, 8, 11, 29, 30.

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Conclusion

- Les ANOCOR à risque potentiel ne sont pas rares.
- Les trajets ectopiques restent mal connus des cardiologues (intérêt de centres référents)
- L'angioplastie semble être une alternative à la chirurgie pour la revascularisation de certains patients.
- Les critères de sévérité pour évaluer les risques des ANOCOR doivent être précisés