Mon ESC en Tunisie : Session en Collaboration avec l'ESC

Syndromes coronariens chroniques

Présentation du cas clinique
Selim BOUDICHE
Khaldoun BEN HAMDA

39è Congrès NATIONAL de CCCV
25/10/2019

STCCCV
Société Tunisienne de Cardiologie & de Chirurgie Cardio-Vasculaire

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Clinical presentation

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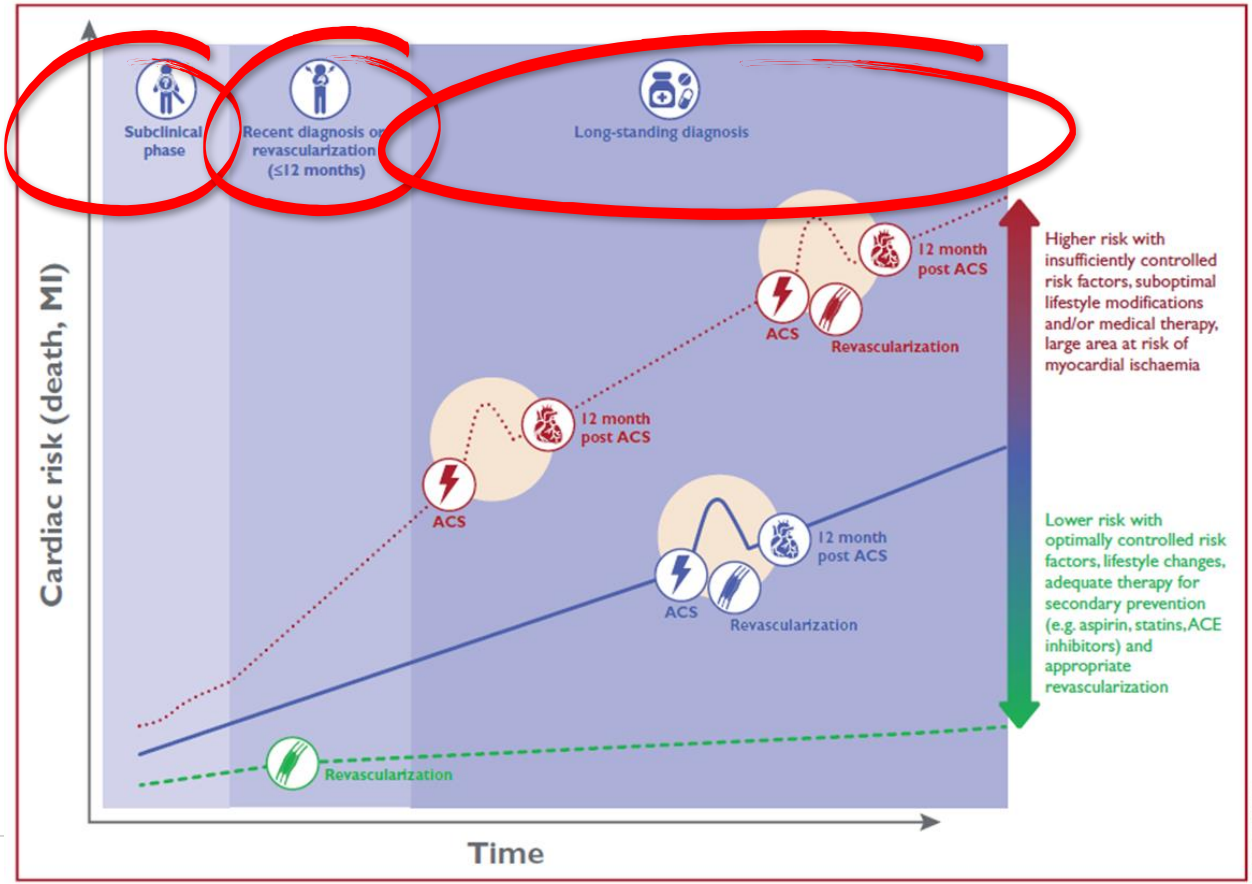
- 47y, man
- Current smoker, family history of CAD

- **1 year ago**
  - NSTEMI
  - 2V CAD → PCI (V stenting LADo and RIo, only PCI report was available)

- **Current presentation**
  - Chest disconfort + dyspnea

Schematic illustration of the natural history of CCS



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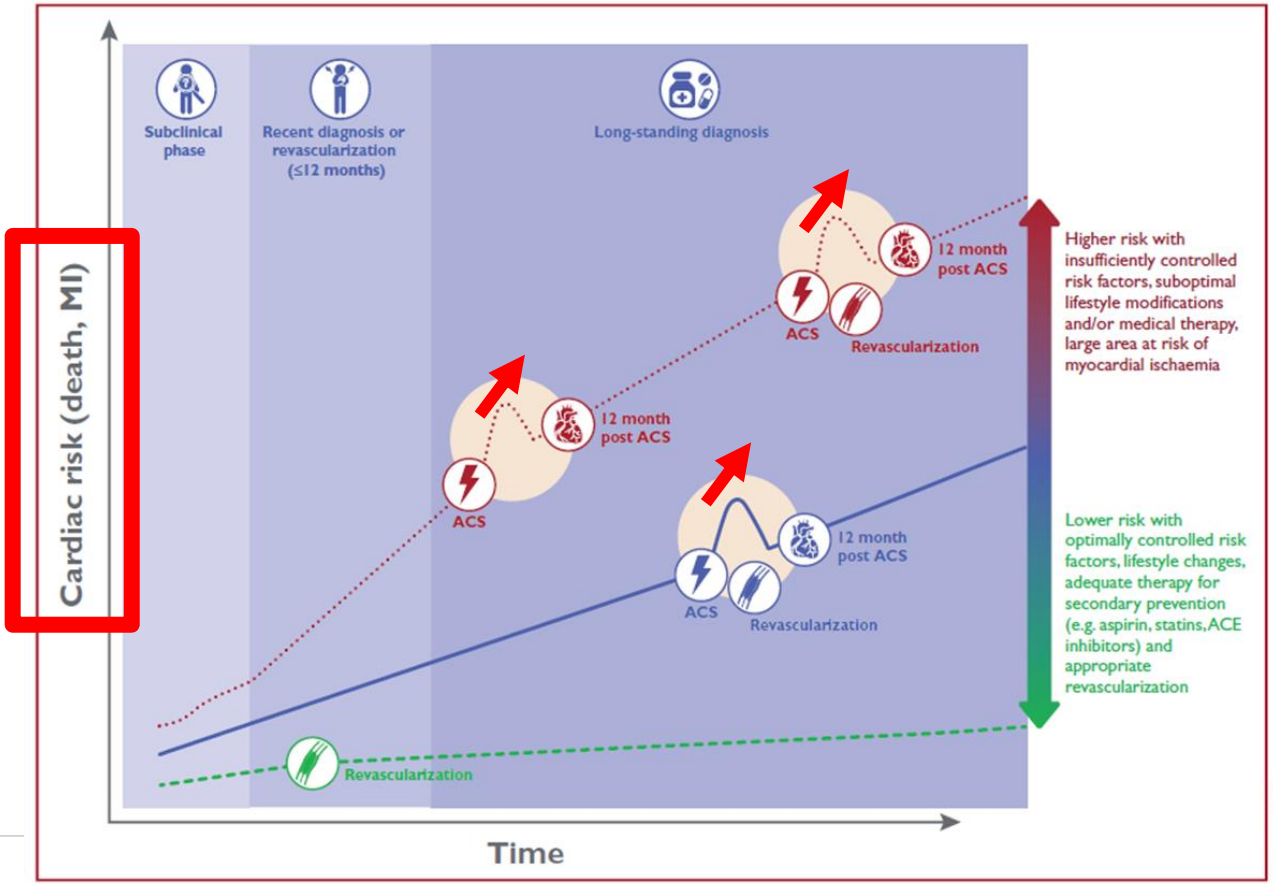

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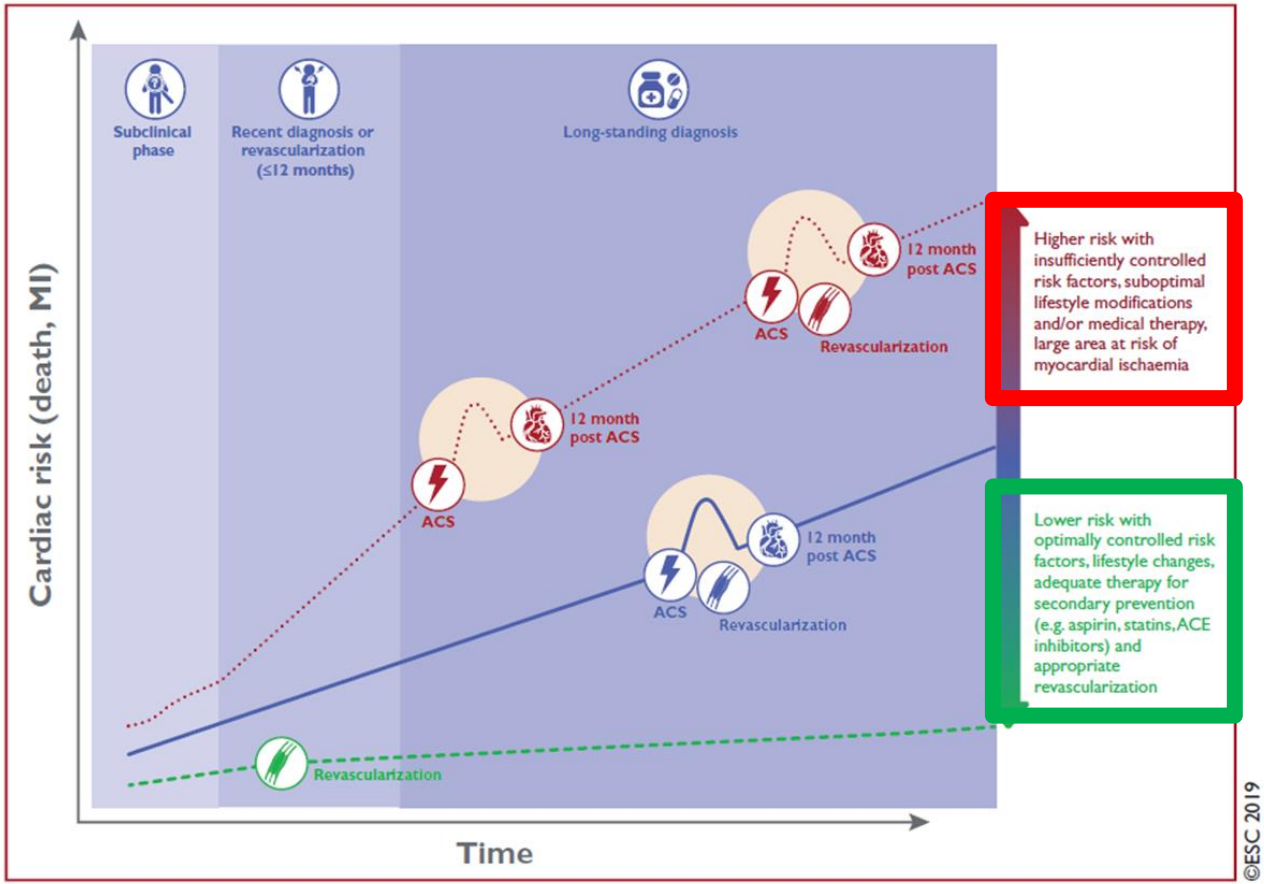

6-step approach

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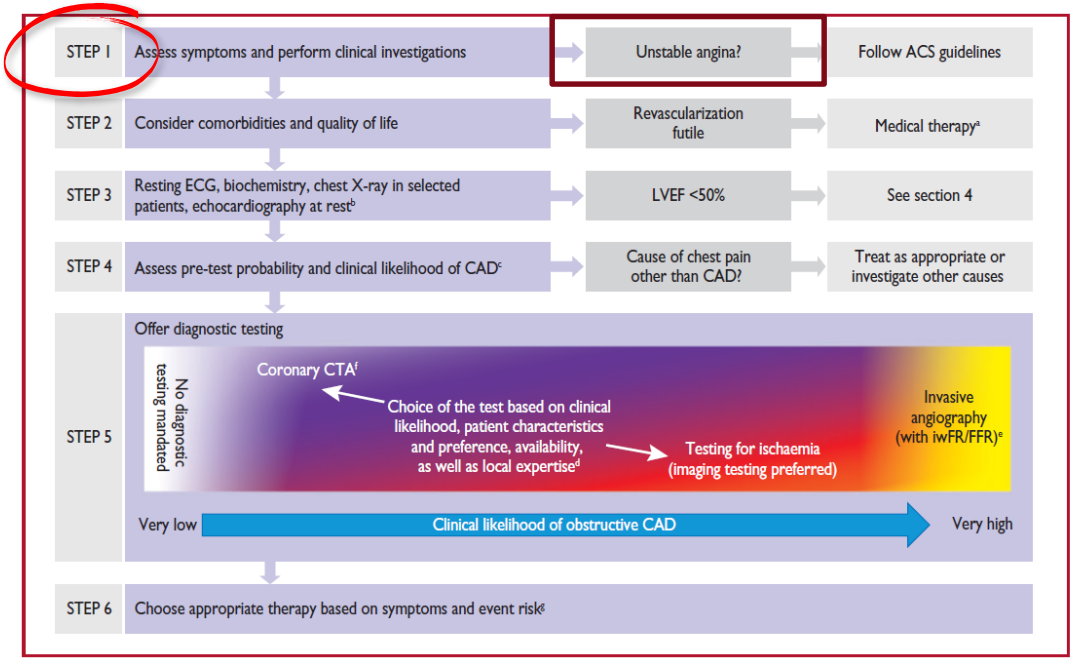
Approach for the initial diagnostic management of patients with angina and suspected CCS



Step 1: Assess symptoms

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- **Current presentation**

  - Anxiety ++
  - Chest disconfort + dyspnea
  - Without typical irradiations
  - Precipitated by physical exertion
  - Brief episods, spontaneous relief
  - Mild severity (3-4/10)
  - Starting 2 months ago

  - No smoking cessation
  - Medical Rx : aspirin+clopidogrel+statin

STEP 1: assess symptoms

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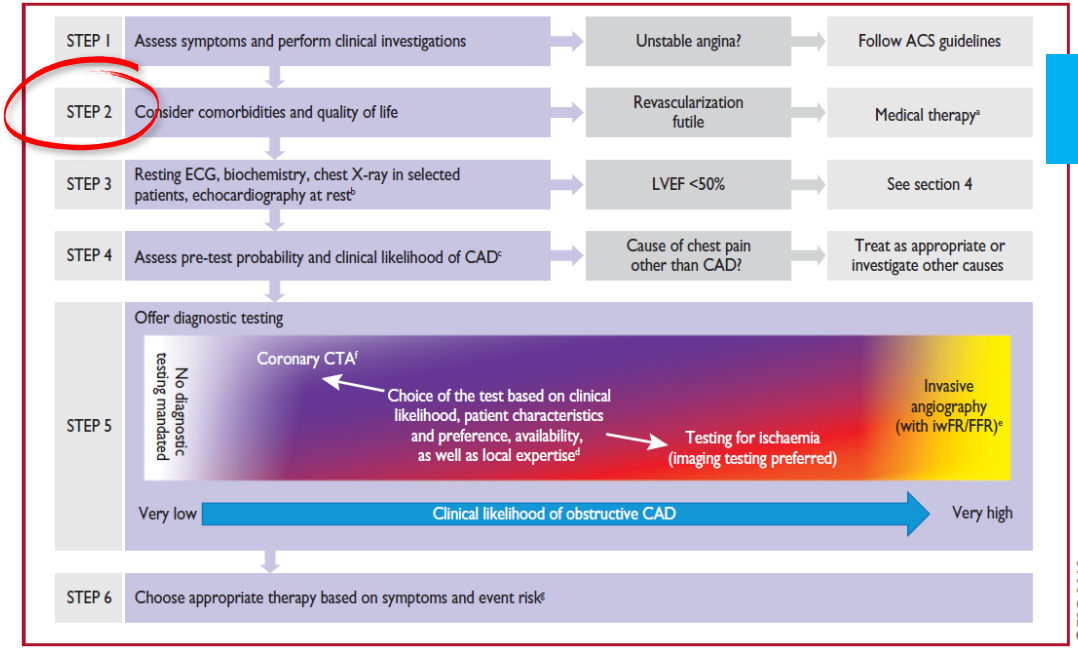
Table 3 Traditional clinical classification of suspected anginal symptoms

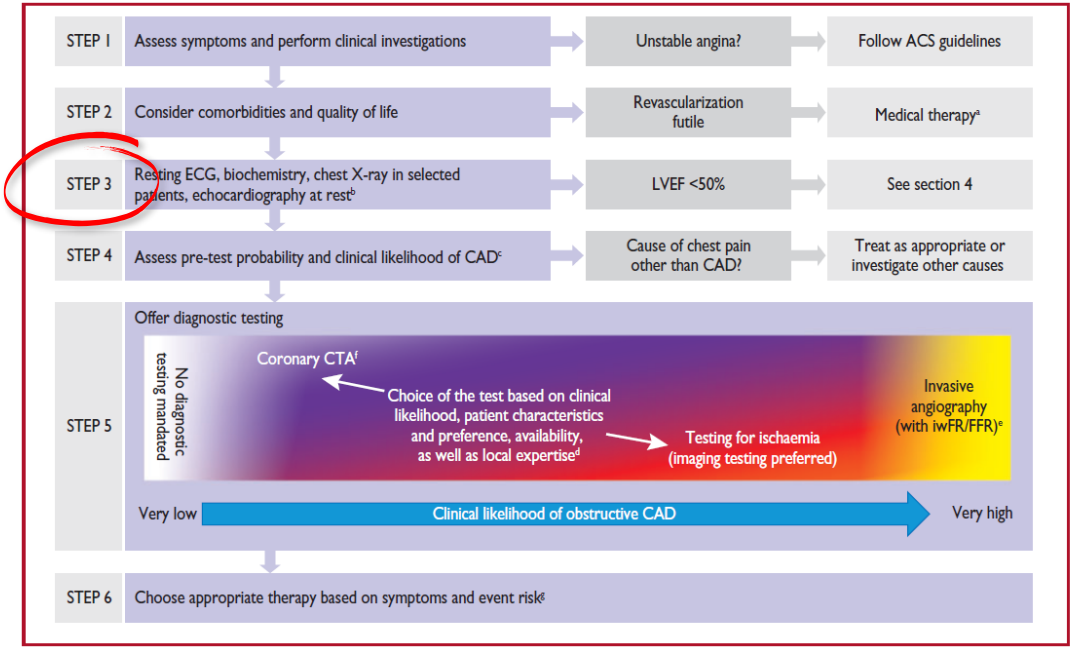
Typical angina	Meets the following three characteristics:
	(i) Constricting discomfort in the front of the chest or in the neck, jaw, shoulder, or arm;
	(ii) Precipitated by physical exertion;
	(iii) Relieved by rest or nitrates within 5 min.
Atypical angina	Meets two of these characteristics.
Non-anginal chest pain	Meets only one or none of these characteristics.

Approach for the initial diagnostic management of patients with angina and suspected CCS



→ Active young patient

Approach for the initial diagnostic management of patients with angina and suspected CCS



Step 3: Rest ECG

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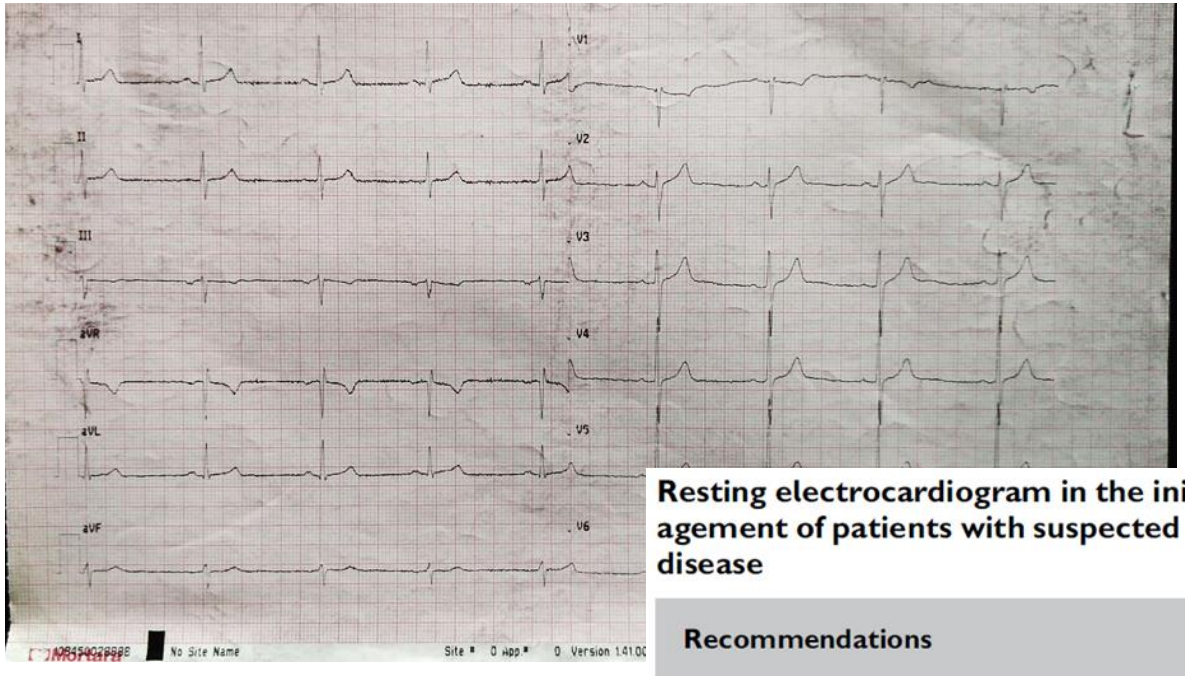

Resting electrocardiogram in the initial diagnostic management of patients with suspected coronary artery disease

Recommendations	Class[a]	Level[b]
A resting 12 lead ECG is recommended in all patients with chest pain without an obvious non-cardiac cause.	I	C

STEP 3: Resting TTE

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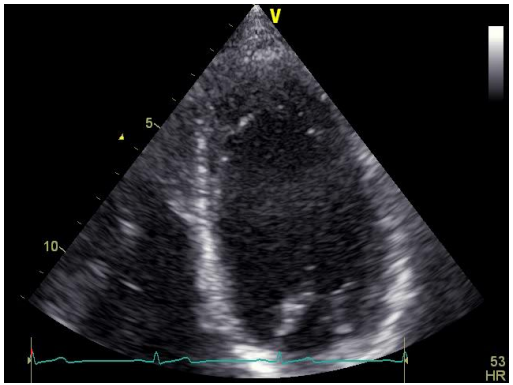
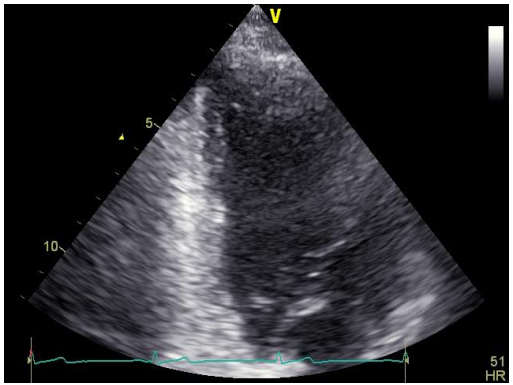
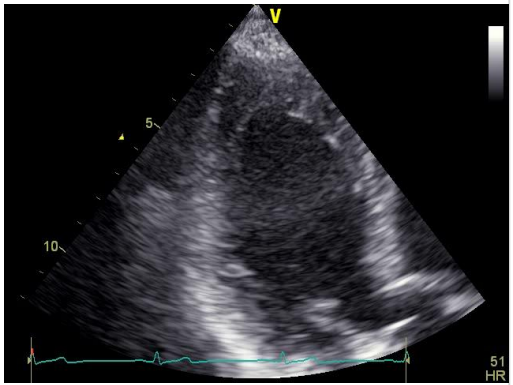
- **Normal LVEF**
- **No WMA**
- **Normal diastolic function**

Resting echocardiography and cardiac magnetic resonance in the initial diagnostic management of patients with suspected coronary artery disease

Recommendations	Class[a]	Level[b]
A resting transthoracic echocardiogram is recommended in all patients for: (1) Exclusion of alternative causes of angina; (2) Identification of regional wall motion abnormalities suggestive of CAD; (3) Measurement of LVEF for risk stratification; and (4) Evaluation of diastolic function.[44,45,52,58]	I	B







Global and regional longitudinal 2D-Strain ?

Step 3: Basic biochemistry testing

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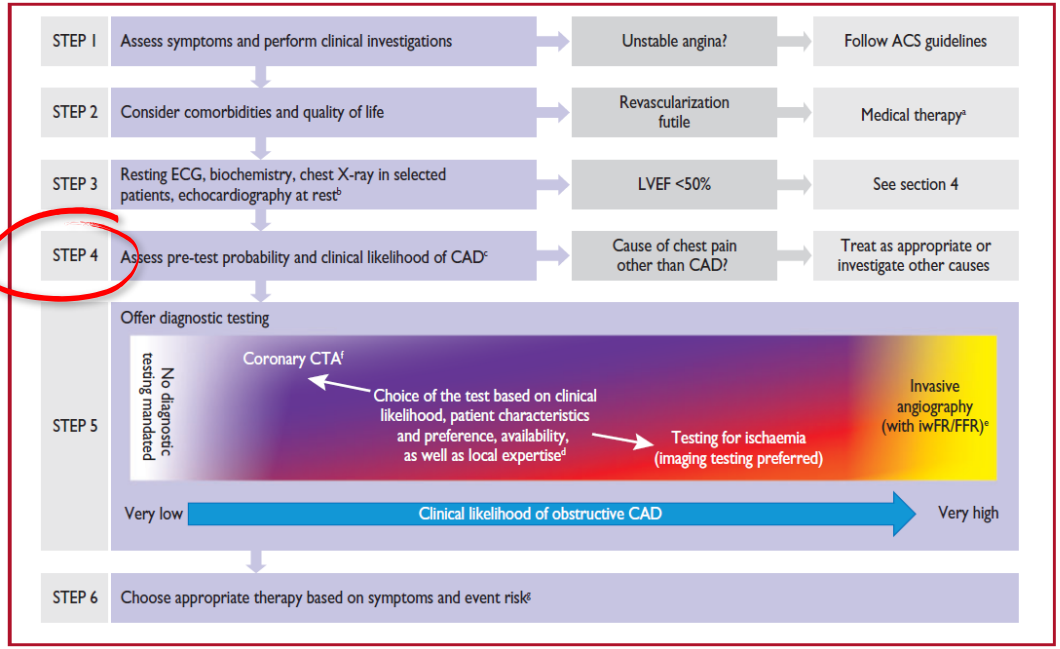
Basic biochemistry testing in the initial diagnostic management of patients with suspected coronary artery disease

Recommendations	Class[a]	Level[b]
If evaluation suggests clinical instability or ACS, repeated measurements of troponin, preferably using high-sensitivity or ultrasensitive assays, are recommended to rule-out myocardial injury associated with ACS.[28,29]	I	A
The following blood tests are recommended in all patients:		
• Full blood count (including haemoglobin);[30]	I	B
• Creatinine measurement and estimation of renal function;[31,32]	I	A
• A lipid profile (including LDL-C).[33,34]	I	A
It is recommended that screening for type 2 diabetes mellitus in patients with suspected and established CCS is implemented with HbA1c and fasting plasma glucose measurements, and that an oral glucose tolerance test is added if HbA1c and fasting plasma glucose results are inconclusive.[16,35]	I	B
Assessment of thyroid function is recommended in case of clinical suspicion of thyroid disorders.	I	C

Approach for the initial diagnostic management of patients with angina and suspected CCS



Step 4: Assess PTP

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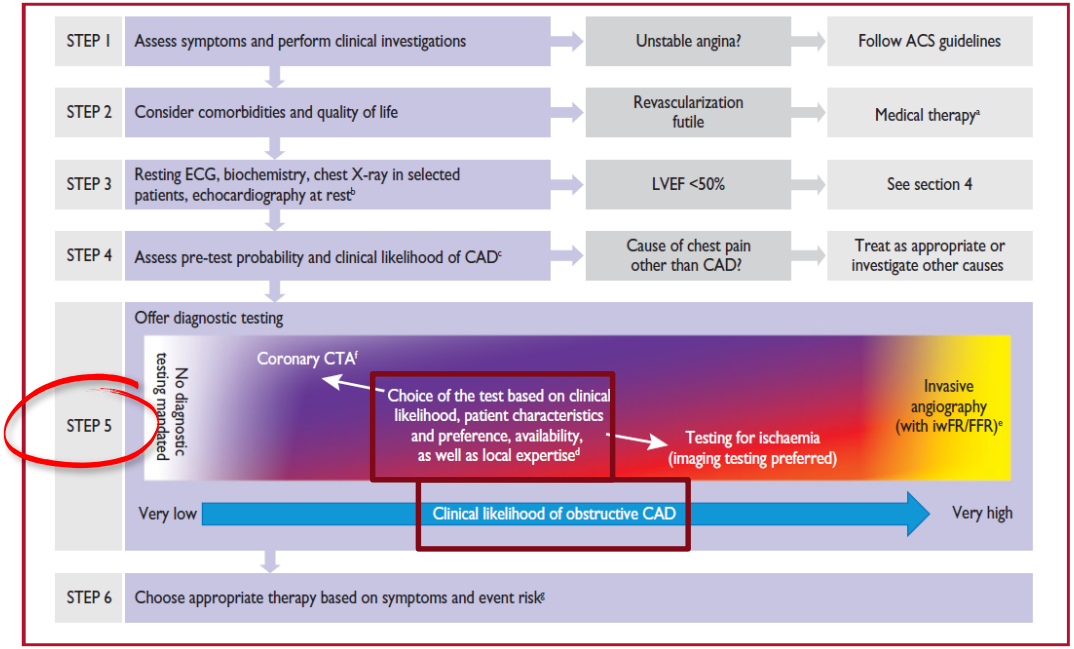
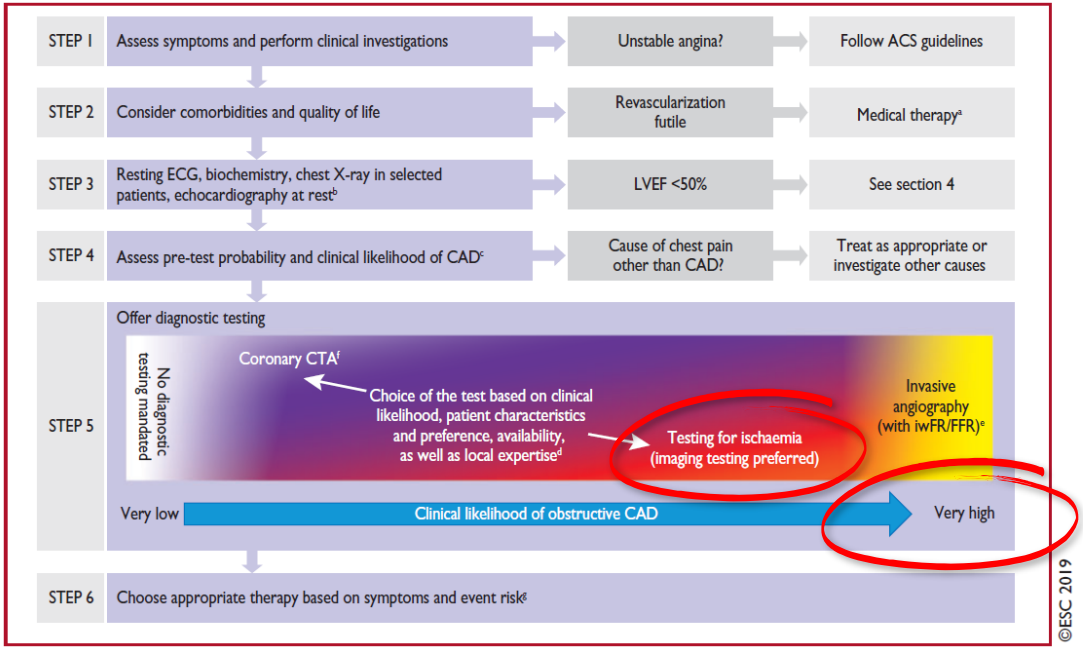
Table 5 Pre-test probabilities of obstructive coronary artery disease in 15 815 symptomatic patients according to age, sex, and the nature of symptoms in a pooled analysis[64] of contemporary data[7,8,62]

	Typical		Atypical		Non-anginal		Dyspnoea[a]	
Age	Men	Women	Men	Women	Men	Women	Men	Women
30–39	3%	5%	4%	3%	1%	1%	0%	3%
40–49	22%	10%	10%	6%	3%	2%	12%	3%
50–59	32%	13%	17%	6%	11%	3%	20%	9%
60–69	44%	16%	26%	11%	22%	6%	27%	14%
70+	52%	27%	34%	19%	24%	10%	32%	12%

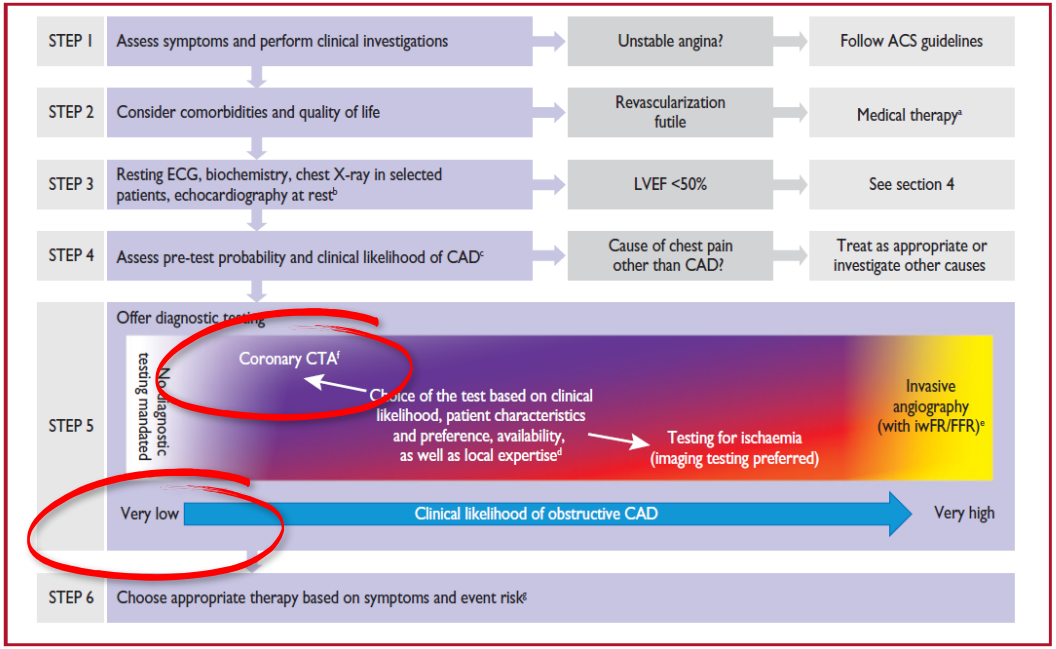
Approach for the initial diagnostic management of patients with angina and suspected CCS



Approach for the initial diagnostic management of patients with angina and suspected CCS



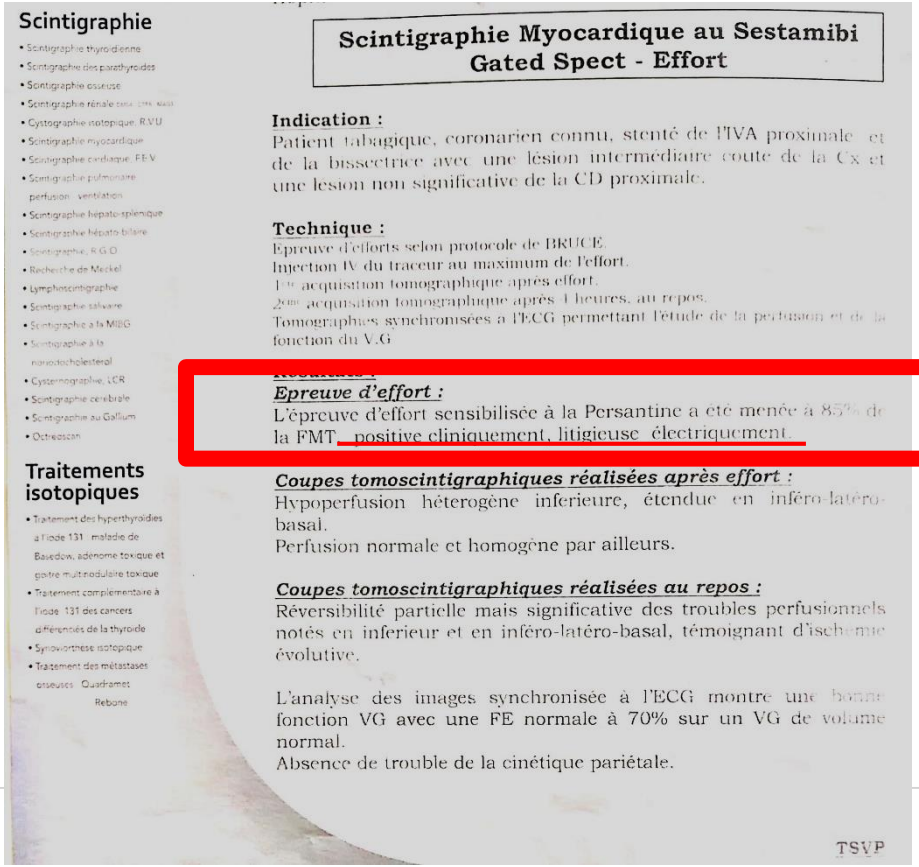
Approach for the initial diagnostic management of patients with angina and suspected CCS



Step 5: SPECT


Apex
NABIL LAJMI
Le 26-02-2014
Anterior
SCINTIGRAPHIE MYOCARDIQUE
GATED
Short Axis - Thickness 3 (8.1mm)
STRESS
REPOS
COUPES TRANSVERSALES
Inferior
REPOS
Base
Vertical Long Axis - Thickness 3 (8.1mm)
STRESS
REPOS
Lateral
Horizontal Long Axis - Thickness 3 (8.1mm)
STRESS
REPOS
Anterior

Step 5: SPECT



Scintigraphie

- Scintigraphie thyroïdienne
- Scintigraphie des parathyroïdes
- Scintigraphie osseuse
- Scintigraphie rénale
- Cystographie isotopique, R.V.U
- Scintigraphie myocardique
- Scintigraphie cardiaque, F.E.V
- Scintigraphie pulmonaire perfusion - ventilation
- Scintigraphie hépato-splénique
- Scintigraphie hépato-biliaire
- Scintigraphie, R.G.O
- Recherche de Meckel
- Lymphoscintigraphie
- Scintigraphie salivaire
- Scintigraphie à la MIBG
- Scintigraphie à la noradocholesterol
- Cysternographie, LCR
- Scintigraphie cérébrale
- Scintigraphie au Gallium
- Octreoscan

Traitements isotopiques

- Traitement des hyperthyroïdies à l'iode 131 : maladie de Basedow, adénome toxique et goitre multinodulaire toxique
- Traitement complémentaire à l'iode 131 des cancers différenciés de la thyroïde
- Synoviorthèse isotopique
- Traitement des métastases osseuses : Quadramet, Rebone

Scintigraphie Myocardique au Sestamibi
Gated Spect - Effort

Indication :
Patient tabagique, coronarien connu, stenté de l'IVA proximale et de la bissectrice avec une lésion intermédiaire coute de la Cx et une lésion non significative de la CD proximale.

Technique :
Epreuve d'efforts selon protocole de BRUCE.
Injection IV du traceur au maximum de l'effort.
1ère acquisition tomographique après effort.
2ème acquisition tomographique après 4 heures, au repos.
Tomographies synchronisées à l'ECG permettant l'étude de la perfusion et de la fonction du V.G

Epreuve d'effort :
L'épreuve d'effort sensibilisée à la Persantine a été menée à 85% de la FMT, positive cliniquement, litigieuse électriquement.

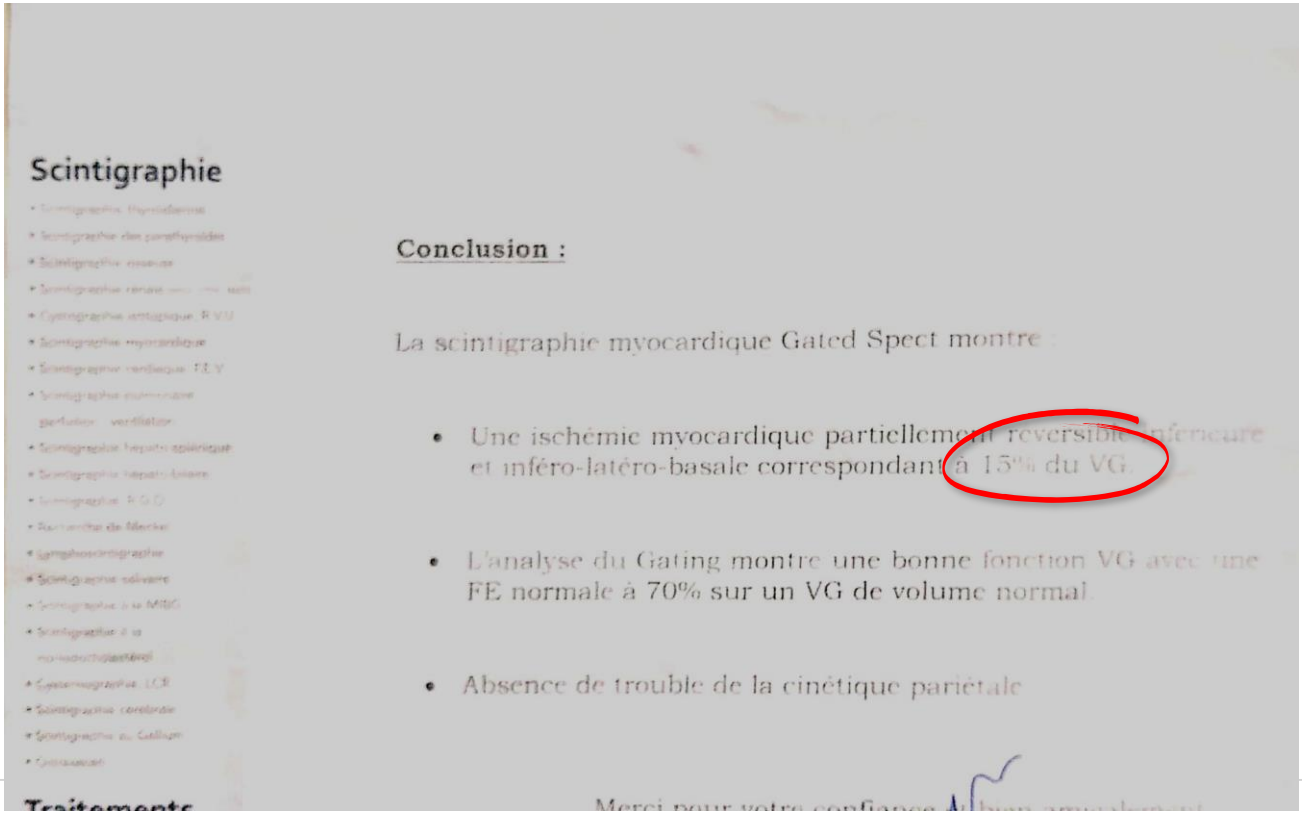
Coupes tomoscintigraphiques réalisées après effort :
Hypoperfusion hétérogène inferieure, étendue en inféro-latéro-basal.
Perfusion normale et homogène par ailleurs.

Coupes tomoscintigraphiques réalisées au repos :
Réversibilité partielle mais significative des troubles perfusionnels notés en inferieur et en inféro-latéro-basal, témoignant d'ischémie évolutive.

L'analyse des images synchronisée à l'ECG montre une bonne fonction VG avec une FE normale à 70% sur un VG de volume normal.
Absence de trouble de la cinétique pariétale.

TSVP

Step 5: SPECT



Scintigraphie

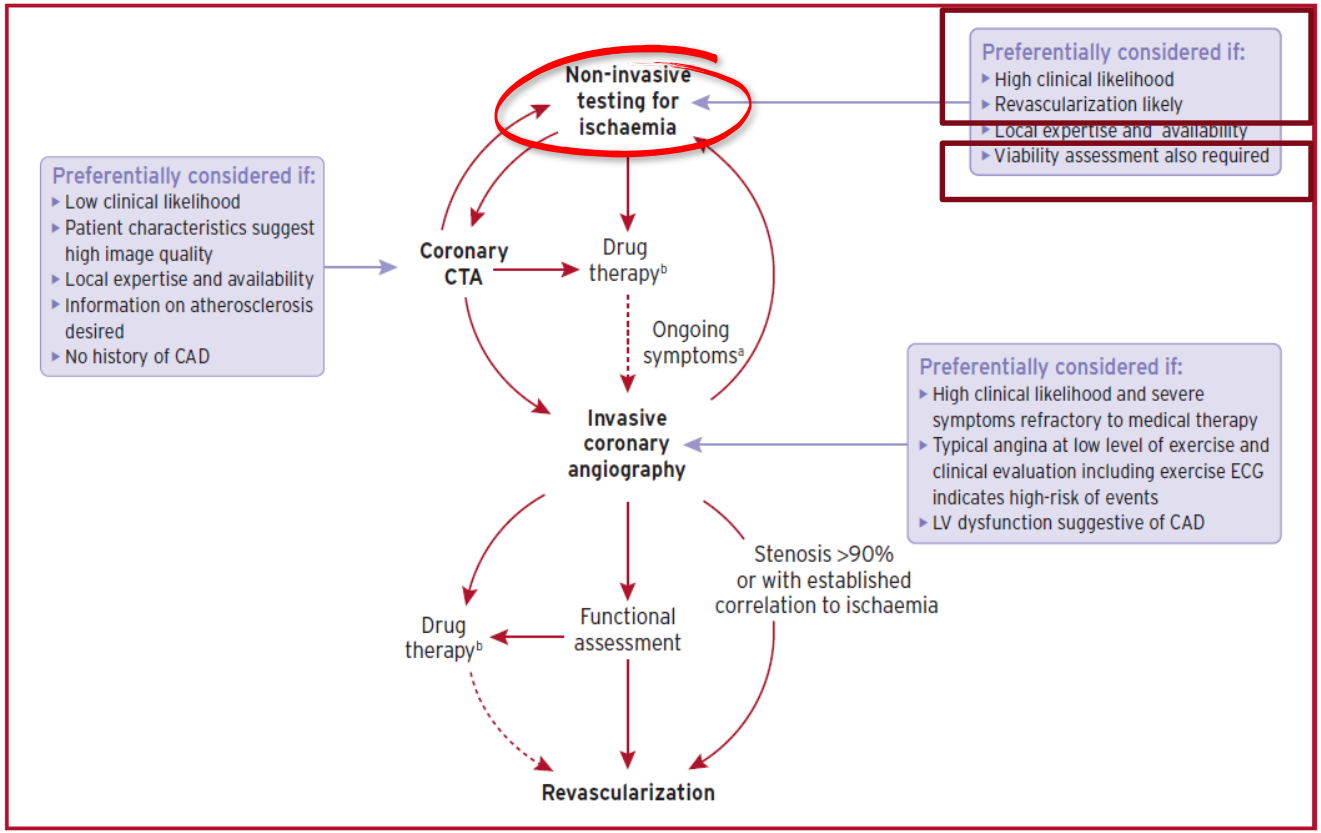
Conclusion :

La scintigraphie myocardique Gated Spect montre :

- Une ischémie myocardique partiellement réversible inférieure et inféro-latéro-basale correspondant à 15% du VG.
- L'analyse du Gating montre une bonne fonction VG avec une FE normale à 70% sur un VG de volume normal
- Absence de trouble de la cinétique pariétale

Merci pour votre confiance

Main diagnostic pathways in symptomatic patients with suspected obstructive coronary artery disease.



Main diagnostic pathways in symptomatic patients with suspected obstructive coronary artery disease.

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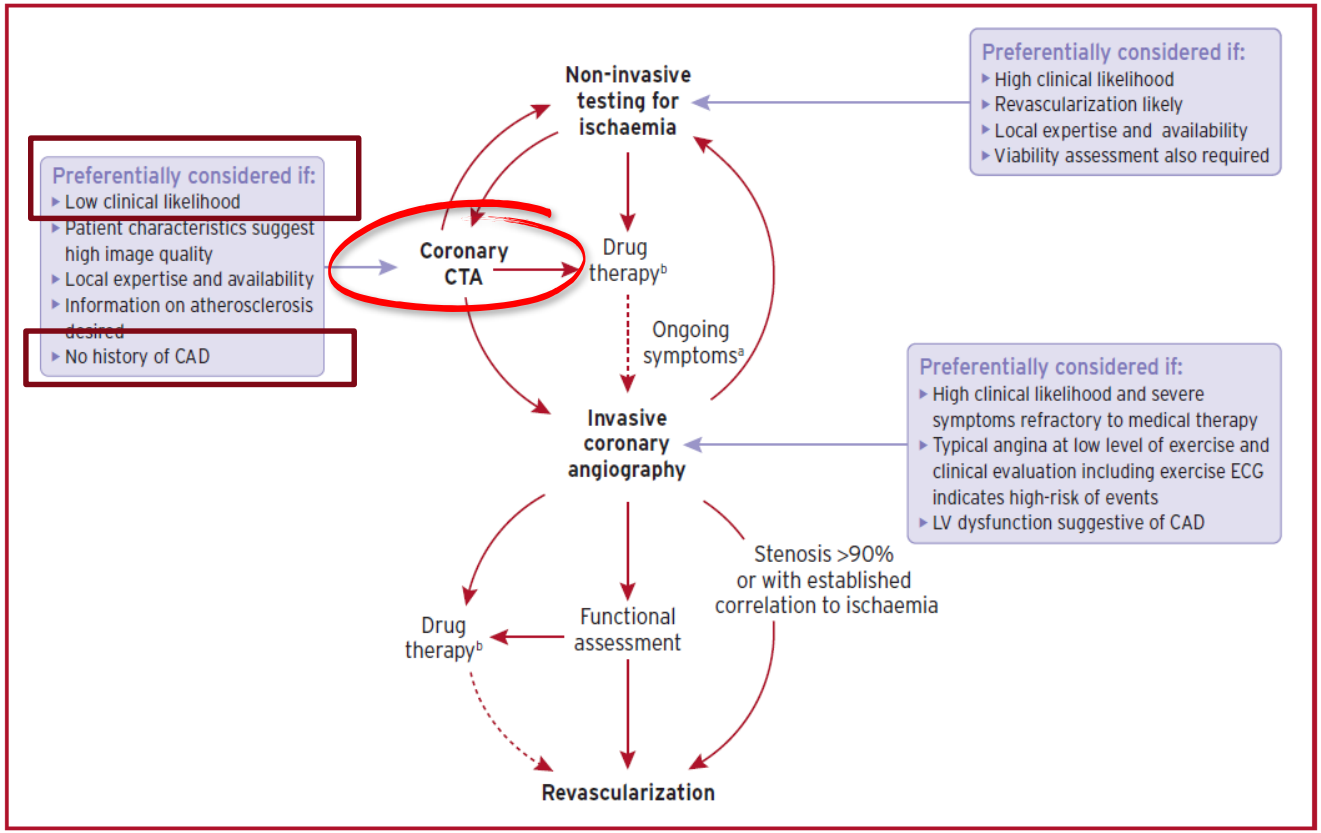
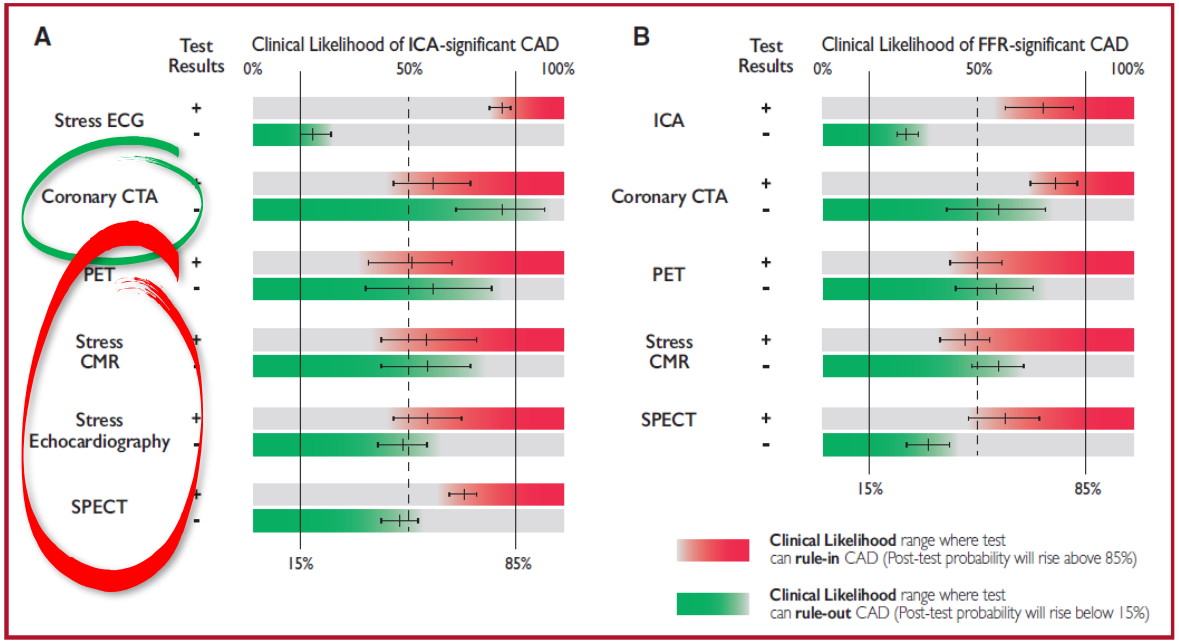


Ranges of clinical likelihood of coronary artery disease in which a given test can rule-in (red) or rule-out (green) obstructive CAD,



Exercice ECG

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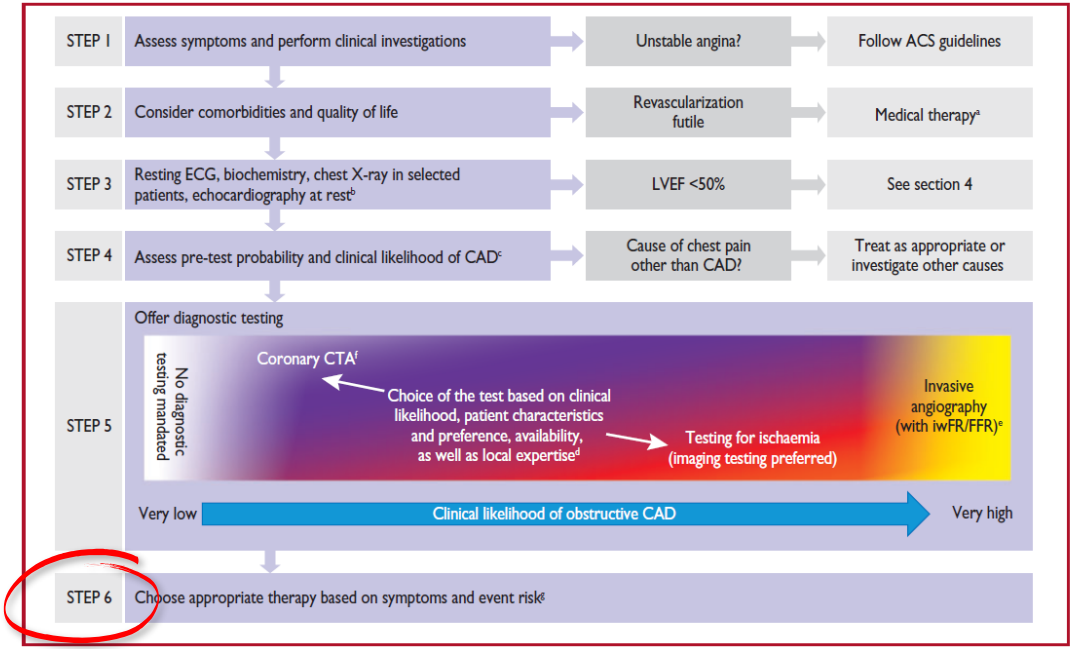
Use of exercise electrocardiogram in the initial diagnostic management of patients with suspected coronary artery disease

Recommendations	Class[a]	Level[b]
Exercise ECG is recommended for the assessment of exercise tolerance, symptoms, arrhythmias, BP response, and event risk in selected patients.[c]	I	C
Exercise ECG may be considered as an alternative test to rule-in and rule-out CAD when non-invasive imaging is not available.[73,83]	IIb	B
Exercise ECG may be considered in patients on treatment to evaluate control of symptoms and ischaemia.	IIb	C
Exercise ECG is not recommended for diagnostic purposes in patients with ≥0.1 mV ST-segment depression on resting ECG or who are being treated with digitalis.	III	C

Approach for the initial diagnostic management of patients with angina and suspected CCS



Step 6: Risk stratification

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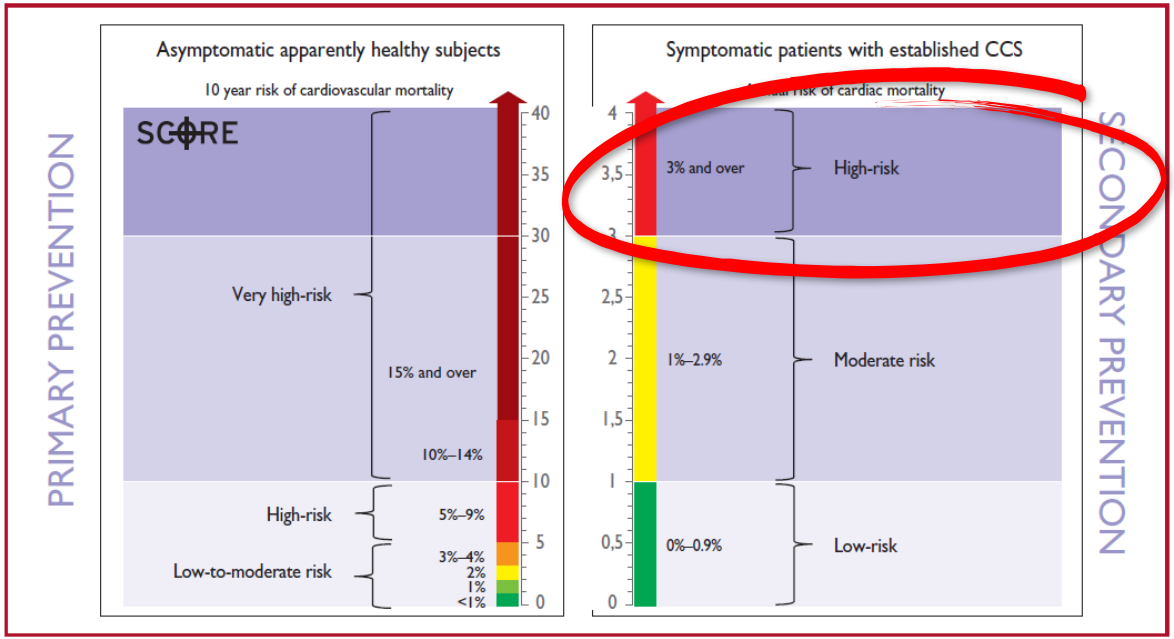
Table 6 Definitions of high event risk for different test modalities in patients with established chronic coronary syndromes[a] [102–104]

Exercise ECG	Cardiovascular mortality >3% per year according to Duke Treadmill Score
SPECT or PET perfusion imaging	Area of ischaemia ≥10% of the left ventricle myocardium
Stress echocardiography	≥3 of 16 segments with stress-induced hypokinesia or akinesia
CMR	≥2 of 16 segments with stress perfusion defects or ≥3 dobutamine-induced dysfunctional segments
Coronary CTA or ICA	Three-vessel disease with proximal stenoses, LM disease, or proximal anterior descending disease
Invasive functional testing	FFR ≤0.8, iwFR ≤0.89

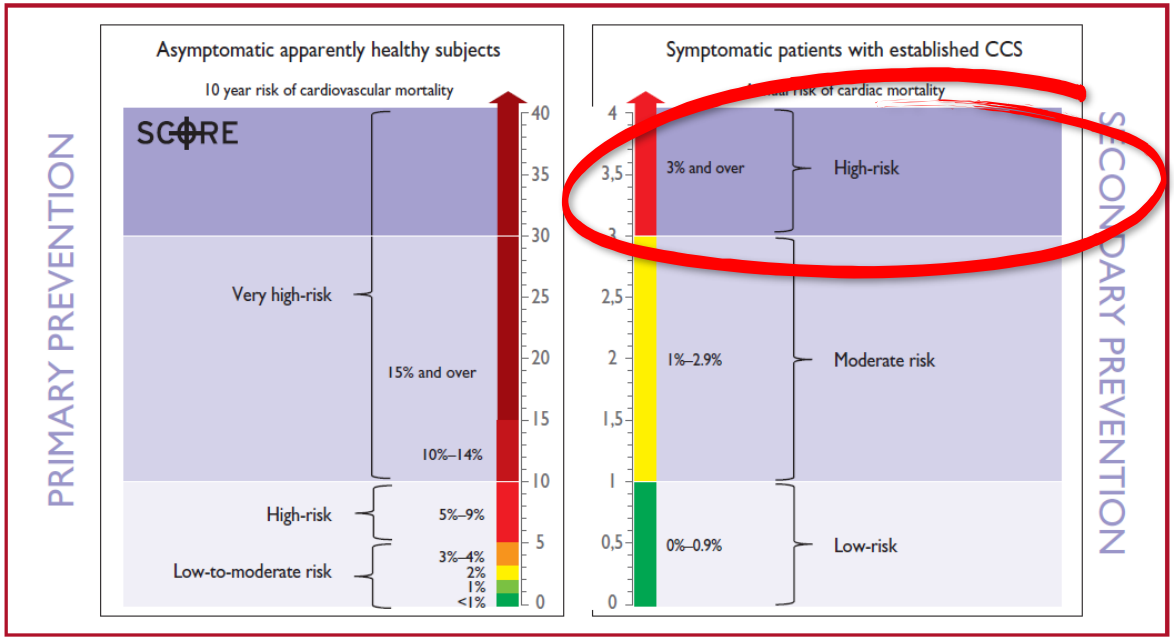
based on patient's symptoms and event risk as assessed by non-invasive testing

Step 6: Risk stratification



Comparison of risk assessments in asymptomatic apparently healthy subjects (primary prevention) and patients with established CCS (secondary prevention).

Step 6: Risk stratification



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Main diagnostic pathways in symptomatic patients with suspected obstructive coronary artery disease.

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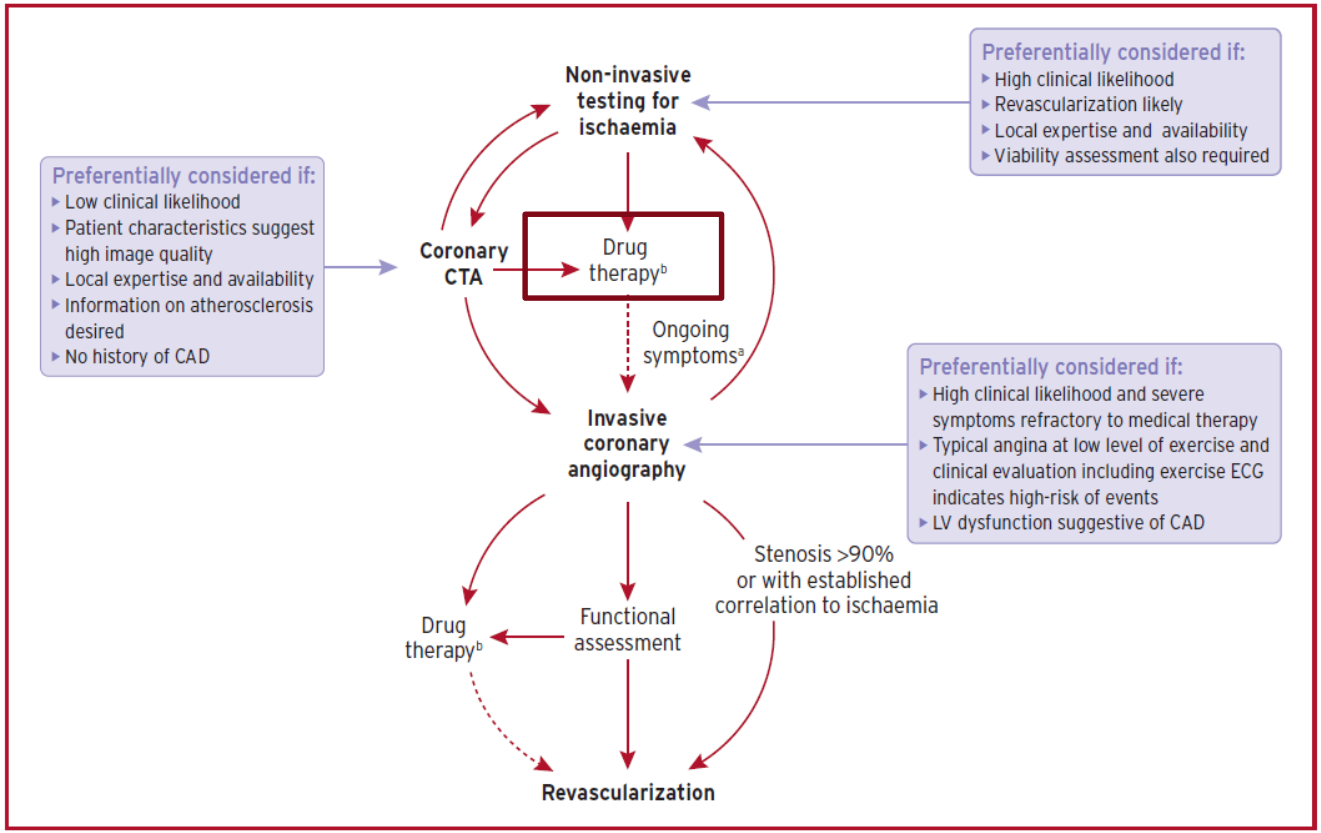

Medical Rx optimization

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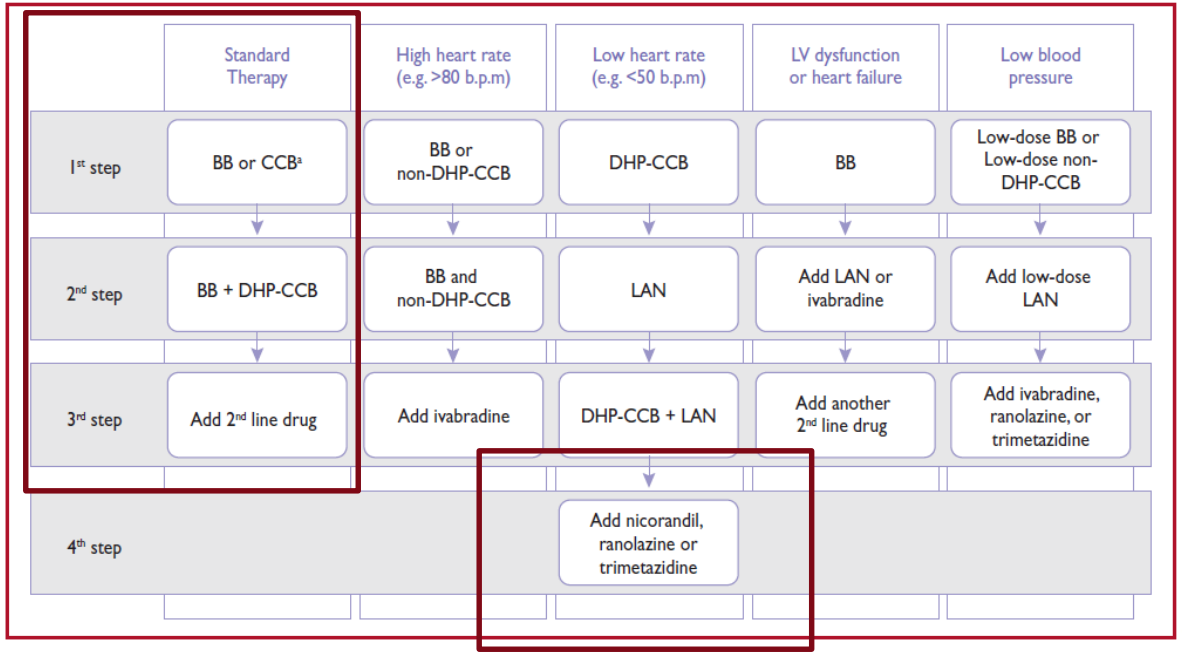
BB + AMLODIPINE

Suggested stepwise strategy for long-term anti-ischaemic drug therapy in patients with chronic coronary syndromes and specific baseline characteristics



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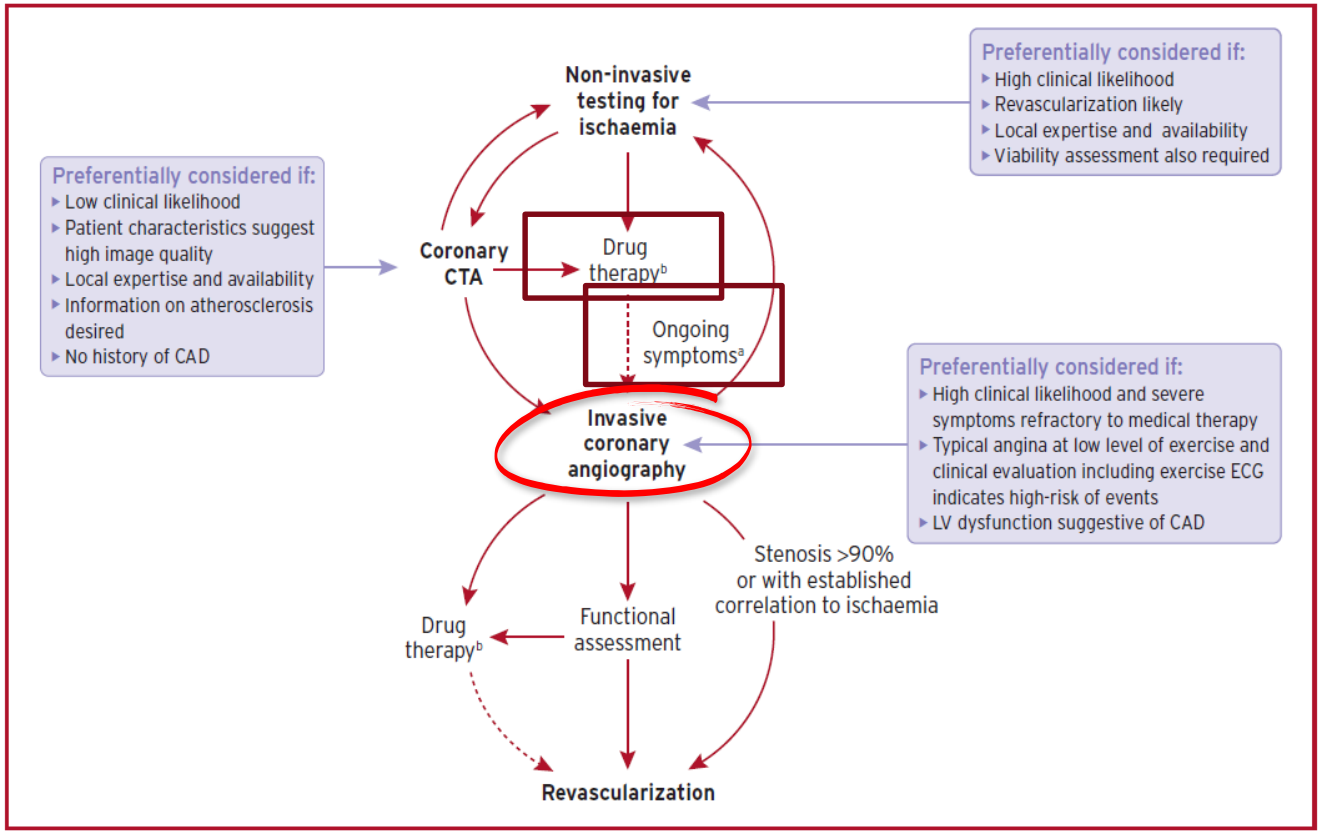
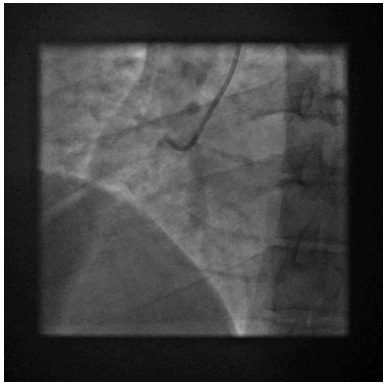
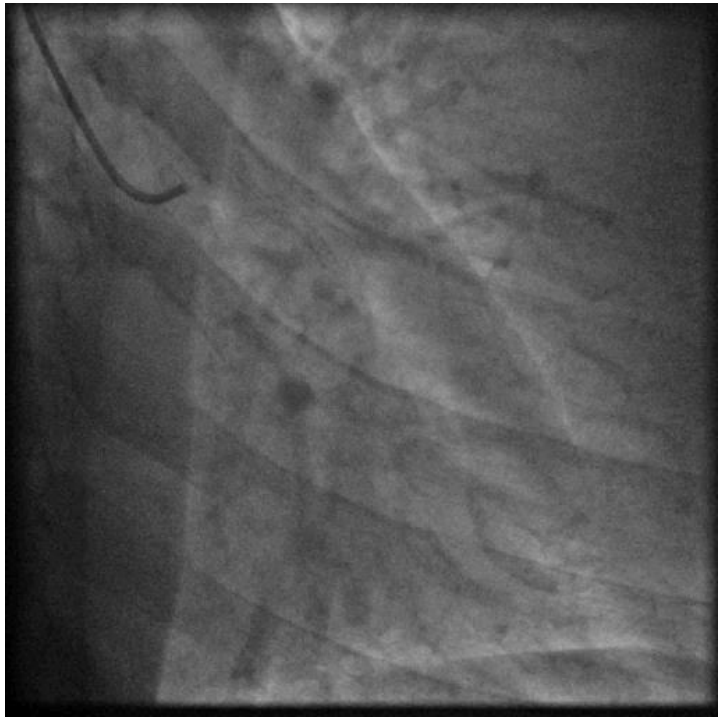
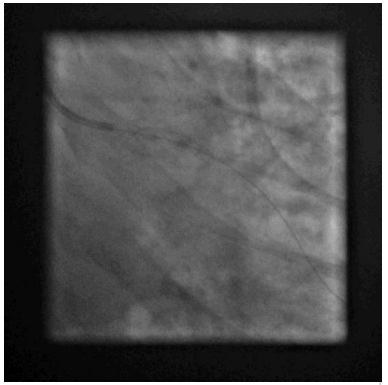
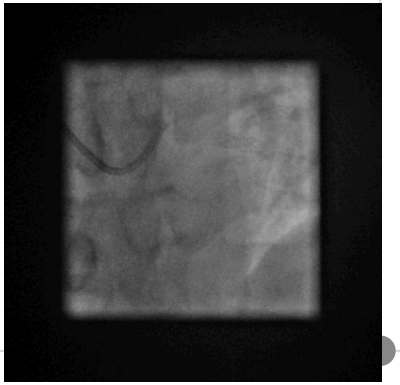


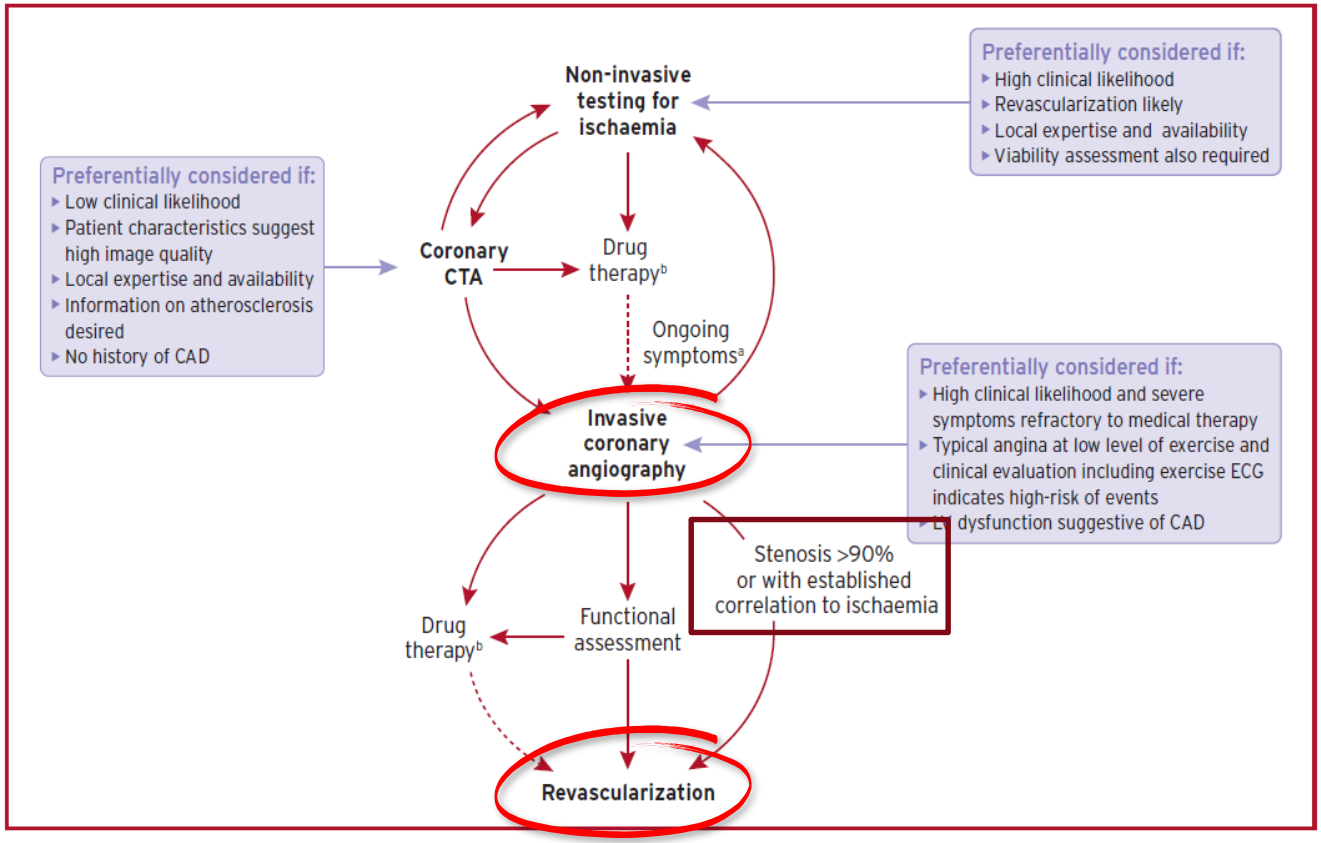




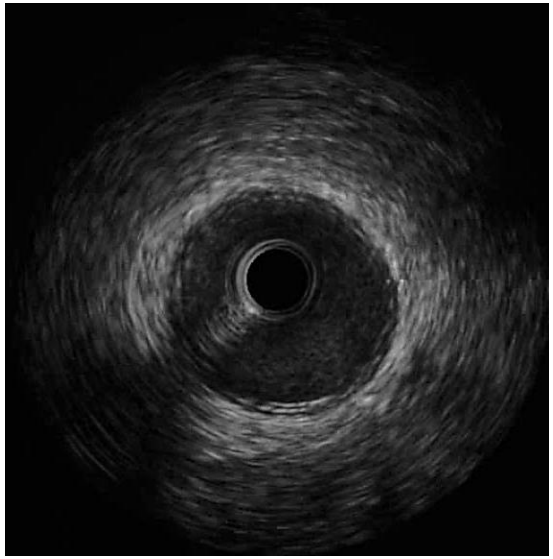


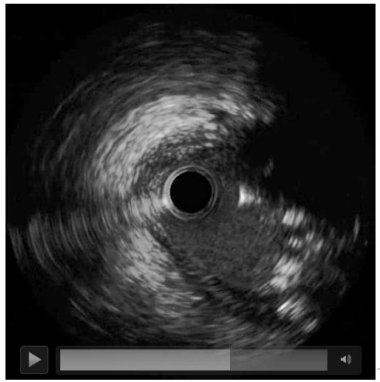


Main diagnostic pathways in symptomatic patients with suspected obstructive coronary artery disease.

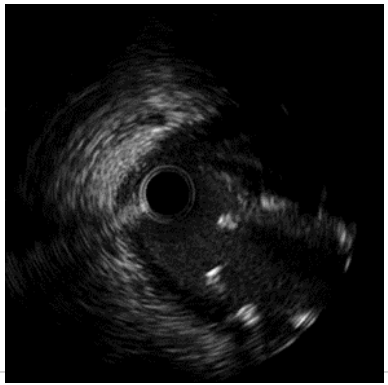


IVUS

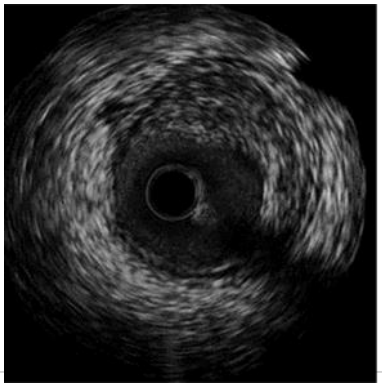




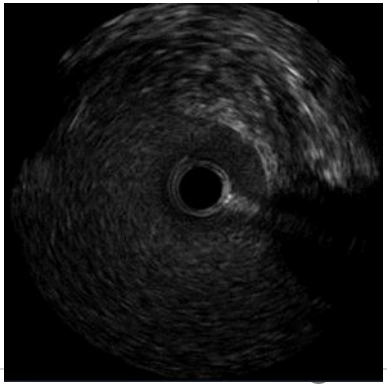
LCXo



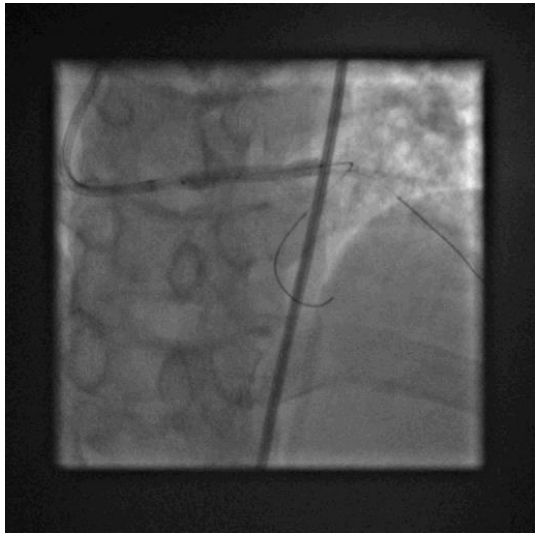
LM bif

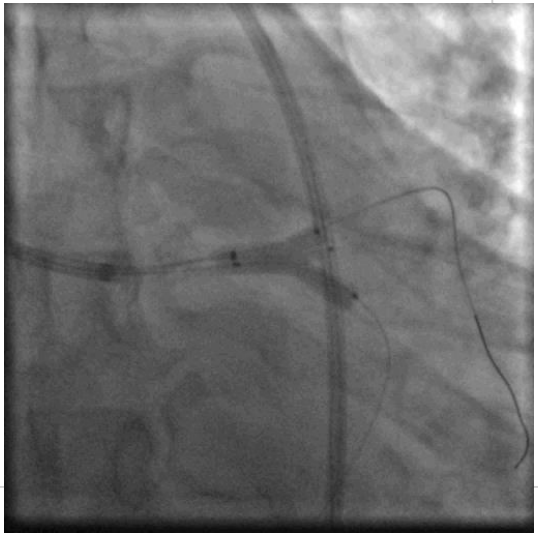


LM shaft



LMo





Final result

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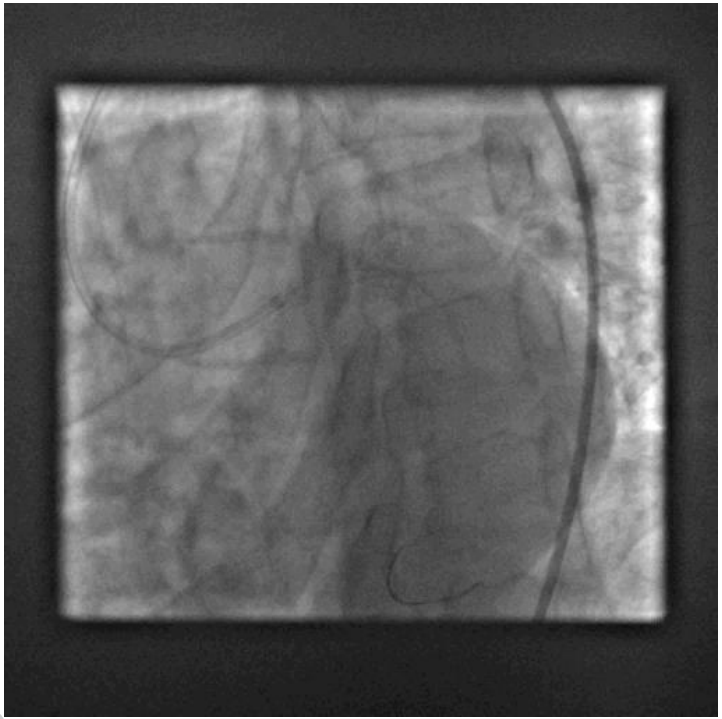

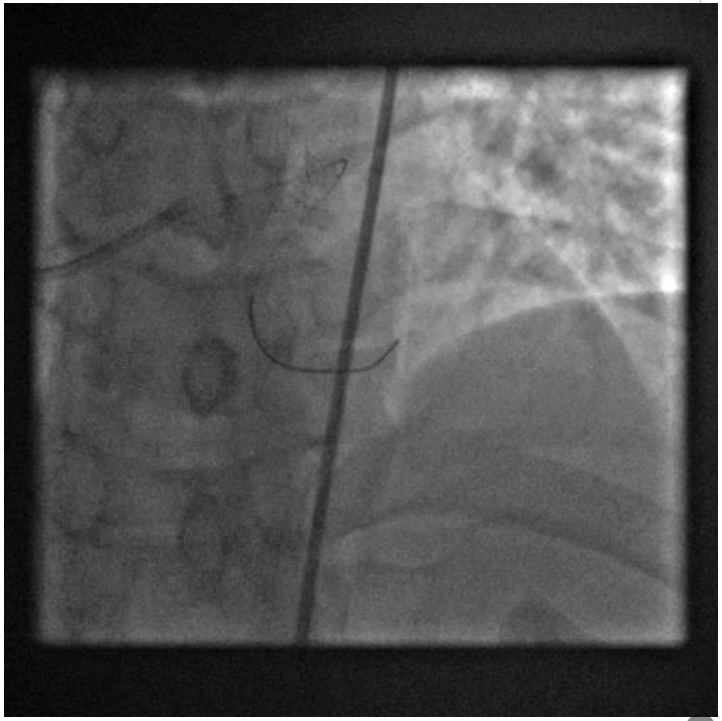

Long term managment

Figure 7 The five As of smoking cessation.

Long term secondary prevention
Adding a second AT drug to aspirin

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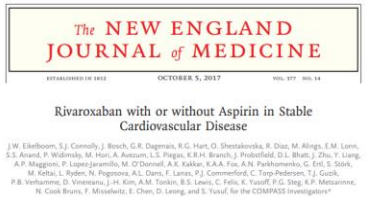
The NEW ENGLAND JOURNAL of MEDICINE

MAY 7, 2015

Long-Term Use of Ticagrelor in Patients with Prior Myocardial Infarction


The NEW ENGLAND JOURNAL of MEDICINE

OCTOBER 5, 2017

Rivaroxaban with or without Aspirin in Stable Cardiovascular Disease

Adding a second antithrombotic drug to aspirin for long-term secondary prevention should be considered in patients with a **high risk** of ischaemic events[c] and without high bleeding risk[d] (see *Table 9* for options).[289,296,297,307]	**IIa**	**A**
Adding a second antithrombotic drug to aspirin for long-term secondary prevention may be considered in patients with at least a **moderately increased risk** of ischaemic events[e] and without high bleeding risk[d] (see *Table 9* for options).[289,296,297,307]	**IIb**	**A**

[c]Diffuse multivessel CAD with at least one of the following: diabetes mellitus requiring medication, recurrent MI, PAD, or CKD

[e]At least one of the following: multivessel/diffuse CAD, diabetes mellitus requiring medication, recurrent MI, PAD, HF, or CKD

Long term secondary prevention
Adding a second AT drug to aspirin

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Table 9 Treatment options for dual antithrombotic therapy in combination with aspirin 75 – 100 mg daily in patients who have a high[a] or moderate[b] risk of ischaemic events, and do not have a high bleeding risk[c]

Drug option	Dose	Indication	Additional cautions	References
Clopidogrel	75 mg o.d.	Post-MI in patients who have tolerated DAPT for 1 year		289,290
Prasugrel	10 mg o.d or 5 mg o.d.; if body weight <60 kg or age >75 years	Post-PCI for MI in patients who have tolerated DAPT for 1 year	Age >75 years	289,290,313
Rivaroxaban	2.5 mg b.i.d.	Post-MI >1 year or multivessel CAD	Creatinine clearance 15 - 29 mL/min	297
Ticagrelor	60 mg b.i.d.	Post-MI in patients who have tolerated DAPT for 1 year		291–293,307,314

My ESC in Tunisia !

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