



Management of Patients based on CT/ICA Results and EU Guidelines

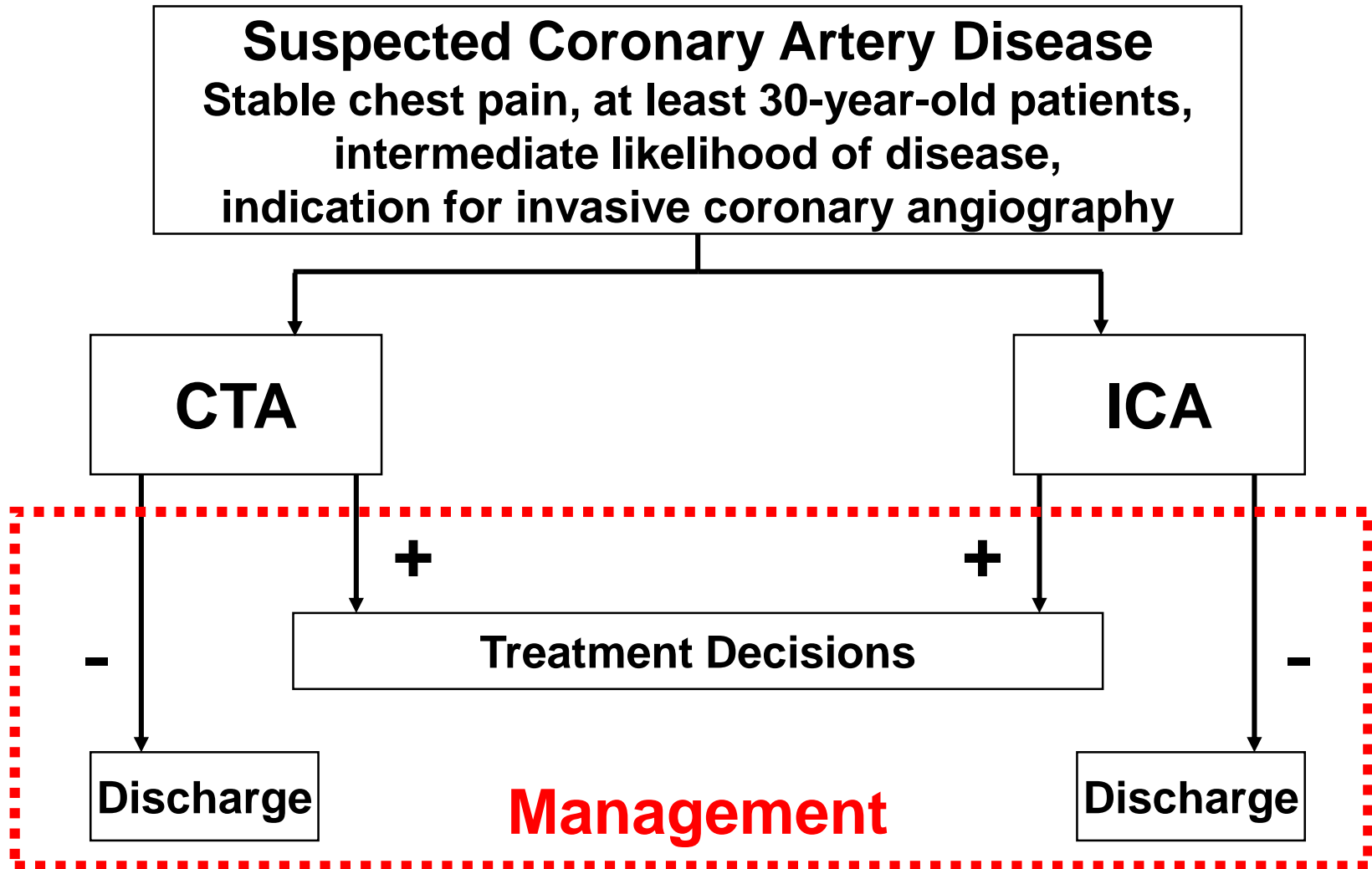
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Randomisation



CT Group

Non-significant stenosis

- No stenosis
 - Discharge patients
 - Search for other reasons of chest pain
- <50% stenosis
 - Discharge patients and consider Optimal Medical Therapy (OMT) and Risk Factor Modification (RFM)^{1,2}

¹Boden WE, N Engl J Med, 2007

²Frye RL, New Engl J Med, 2009

OMT and RFM

- According to European Guidelines



European Heart Journal
doi:10.1093/eurheartj/ehs296

ESC GUIDELINES


1  **2013 ESC guidelines on the management of stable coronary artery disease**

The Task Force on the management of stable coronary artery disease of the European Society of Cardiology



European Heart Journal (2012) **33**, 1635–1701
doi:10.1093/eurheartj/ehs092

JOINT ESC GUIDELINES

2  **European Guidelines on cardiovascular disease prevention in clinical practice (version 2012)**

The Fifth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of nine societies and by invited experts)

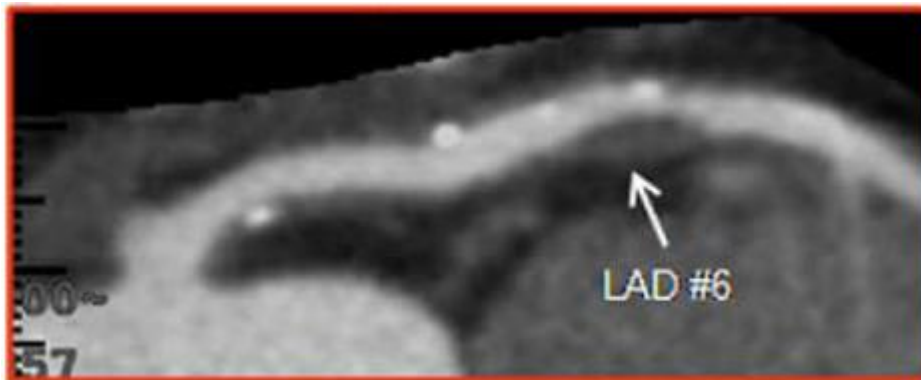
Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR)[†]

¹Montalescot G, Eur Heart J, 2013

²Perk J, Eur Heart J, 2012

Plaque characteristics

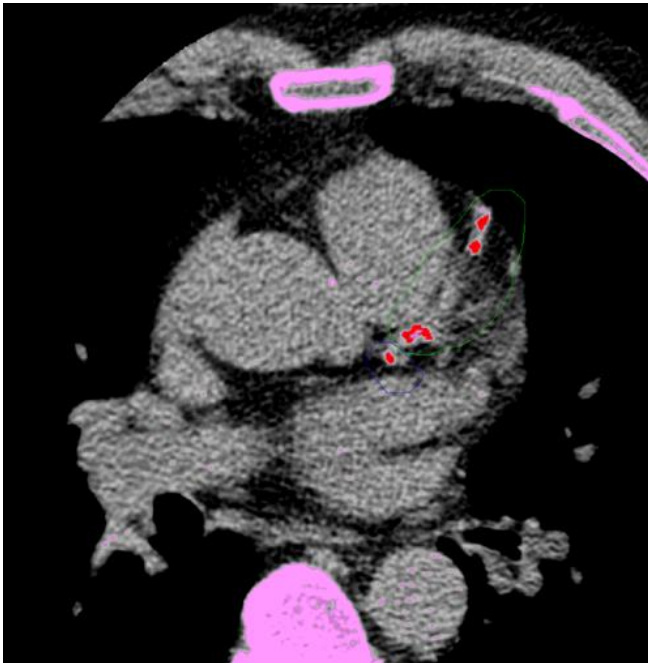
- Also take into account:
 - » **High-risk plaque features** (positive remodeling, low-attenuation plaques, spotty calcifications, ulcerated plaque¹)



¹Motoyama S, J Am Coll Cardiol, 2009

Calcium score

- Also take into account:
 - » CACS of >400 (Agatston)^{4,5}



Region	Agatston	Volume
LM	0	0
RCA	79	93
LAD	165	165
CX	218	172
PDA	0	0
Other1	0	0
Other2	0	0
Other3	0	0
Total	462	430

⁴Greenland P, Circulation, 2007

⁵Budoff MJ, J Am Coll Cardiol, 2009

Significant stenosis I

- $\geq 50\%$ stenosis in patients with 1- or 2-VD
 - use best locally available ischemia test¹
 - » $< 10\%$ ischemic myocardium → OMT²
 - » $> 10\%$ ischemic myocardium → perform ICA and FFR*; include OMT

*positive: FFR ≤ 0.8 (50–90% stenosis) or $> 90\%$ stenosis (ICA) present

¹Shaw LJ, Circulation, 2008

²Hachamovitch R, Circulation, 2003

Significant stenosis II

- $\geq 50\%$ high-risk anatomy stenosis
→ proceed to ICA and consider FFR*;
include OMT

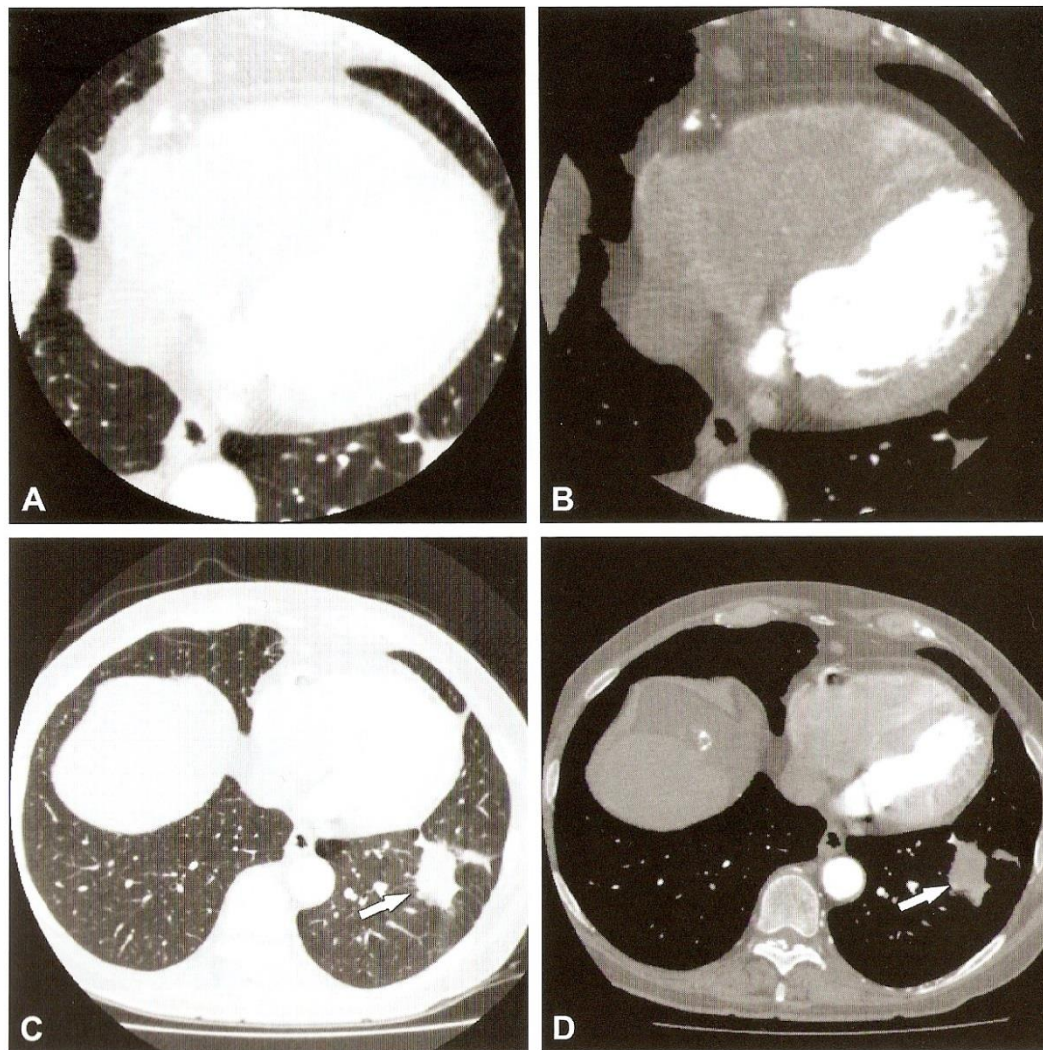
*positive: FFR ≤ 0.8 (50–90% stenosis) or $>90\%$ stenosis (ICA)
present

Noncardiac incidental findings

- Make available to the **local heart team** for treatment decisions¹ (e.g., suspected cancers)

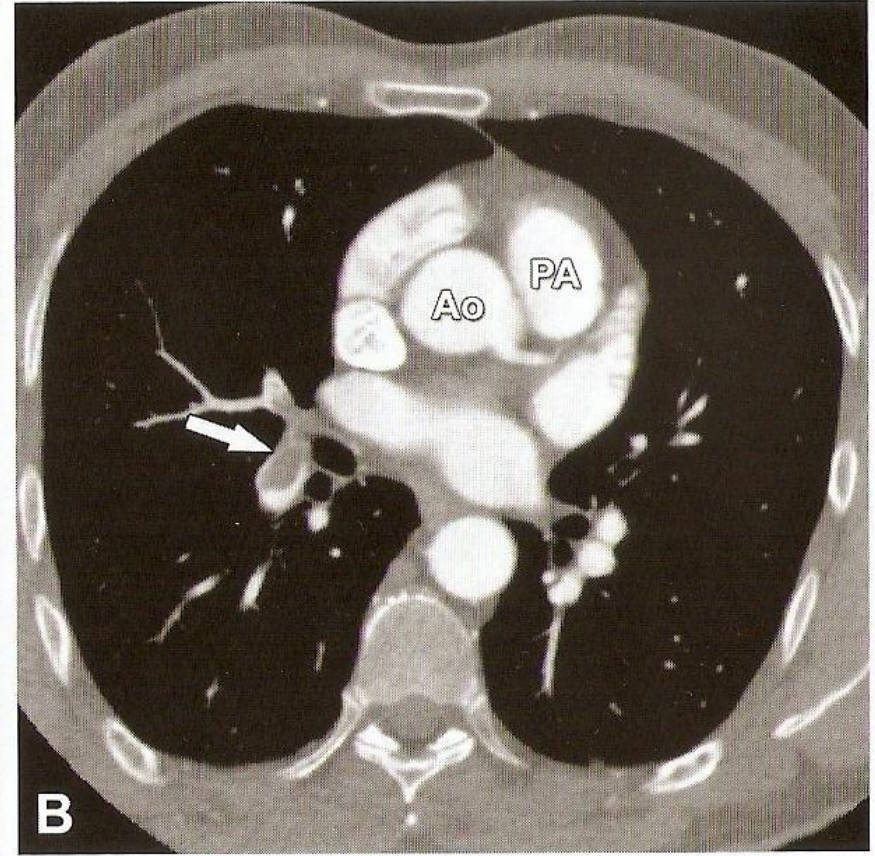
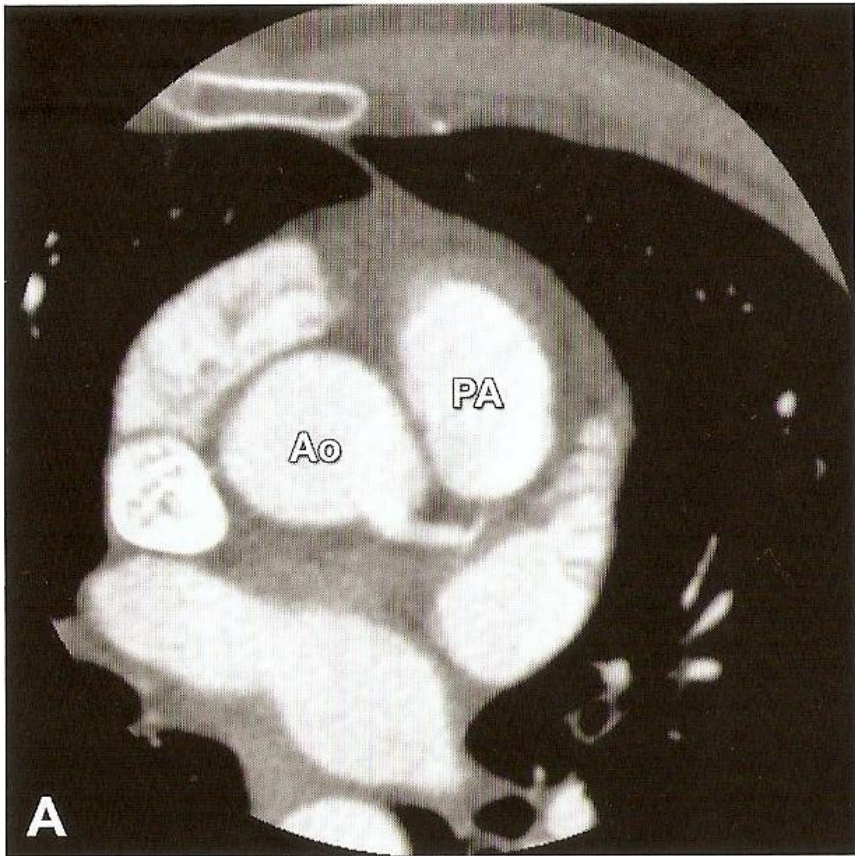
¹Earls JP, Radiology, 2011

Noncardiac incidental findings



from: Dewey M,
Cardiac CT:
Springer, 2011

Noncardiac incidental findings



from: Dewey M, Cardiac CT:
Springer, 2011

ICA Group

Guidelines ICA

- Based on the ESC/EACTS Guidelines on myocardial revascularization¹
- Revascularization (PCI or CABG) in stable angina patients is justified:
 - » persistent limiting symptoms despite OMT and/or
 - » for prognostic reasons – high-risk anatomy or proven ischemic territory

¹Wijns W, Eur Heart J, 2010

	Subset of CAD by anatomy	Class ^a	Level ^b	Ref. ^c
For prognosis	Left main >50% ^d	I	A	30, 31, 54
	Any proximal LAD >50% ^d	I	A	30–37
	2VD or 3VD with impaired LV function ^d	I	B	30–37
	Proven large area of ischaemia (>10% LV)	I	B	13, 14, 38
	Single remaining patent vessel >50% stenosis ^d	I	C	—
	IVD without proximal LAD and without >10% ischaemia	III	A	39, 40, 53
For symptoms	Any stenosis >50% with limiting angina or angina equivalent, unresponsive to OMT	I	A	30, 31, 39–43
	Dyspnoea/CHF and >10% LV ischaemia/viability supplied by >50% stenotic artery	IIa	B	14, 38

Subset of CAD by anatomy	Favours CABG	Favours PCI	Ref.
IVD or 2VD - non-proximal LAD	IIb C	I C	—
IVD or 2VD - proximal LAD	IA	IIa B	30, 31, 50, 51
3VD simple lesions, full functional revascularization achievable with PCI, SYNTAX score ≤ 22	IA	IIa B	4, 30–37, 53
3VD complex lesions, incomplete revascularization achievable with PCI, SYNTAX score >22	IA	III A	4, 30–37, 53
Left main (isolated or IVD, ostium/shaft)	IA	IIa B	4, 54
Left main (isolated or IVD, distal bifurcation)	IA	IIb B	4, 54
Left main + 2VD or 3VD, SYNTAX score ≤ 32	IA	IIb B	4, 54
Left main + 2VD or 3VD, SYNTAX score ≥ 33	IA	III B	4, 54

Guidelines ICA

- Provide recommendations
- Treatment decisions according to
 - » individual patient preferences
 - » clinical characteristics

Discussion

- Include SYNTAX + Duke (CTA/ICA)?
- Include plaque and CACS? How?
- What to do with <50% stenoses with high-risk plaque features?
- PRCT: OMT and RFM a must-do?
- **Please get involved in the "Patient Management" CRF expert group and attend the telephone conferences!**