

A Look at the Guidelines by a Cardiologist Who Fixes Legs

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Disclosures

none

Objectives

- Discuss and highlight importance of “The Heart Team”
- Assessment of Multivessel CAD in setting of STEMI

A.B.

- *“74-year-old female limited past medical history presented chief complaint of chest pain started approximately 1130 this morning that was sudden in onset. Patient states was this was associated with diaphoresis and nausea. Patient states she ate a McDonald sausage breakfast and thought this was likely related to GERD and her McDonald's intake and took some Roloids with minimal relief. Patient states she developed the pain again has been intermittent to severe in nature associated with nausea. She denies any cough congestion shortness of breath fever chills. Patient states that she had a history of hypertension but is presently not taking any medications.”*

Labs

- On presentation (7 pm 8/25) Tn 0.7
- CBC wnl
- SCr 0.63

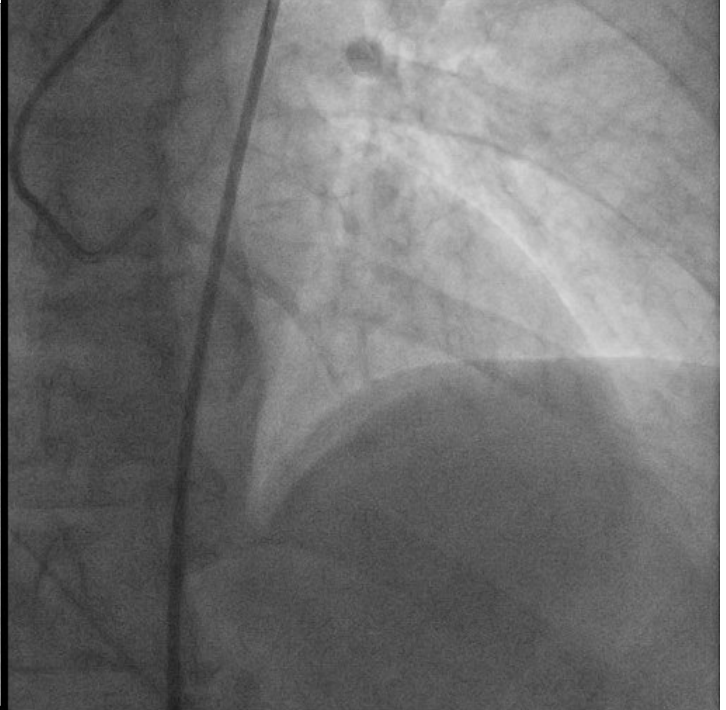
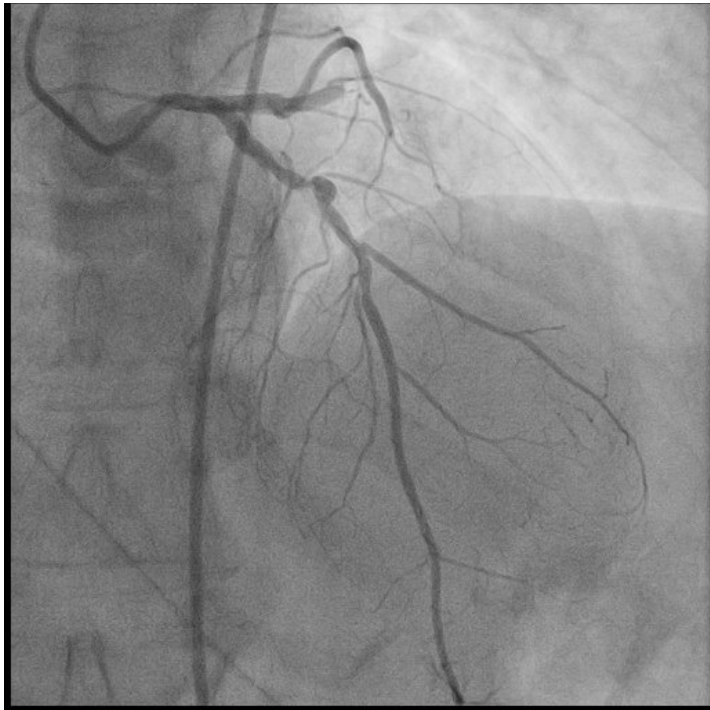
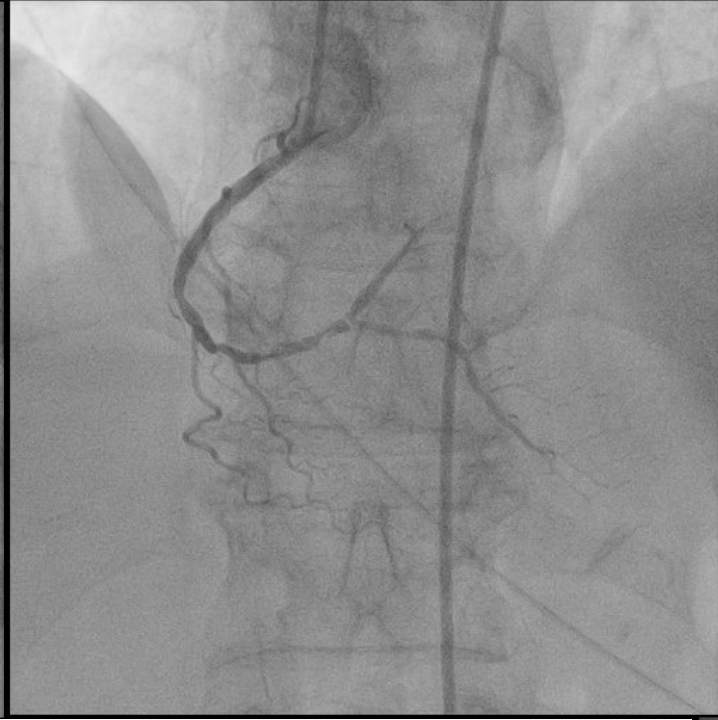
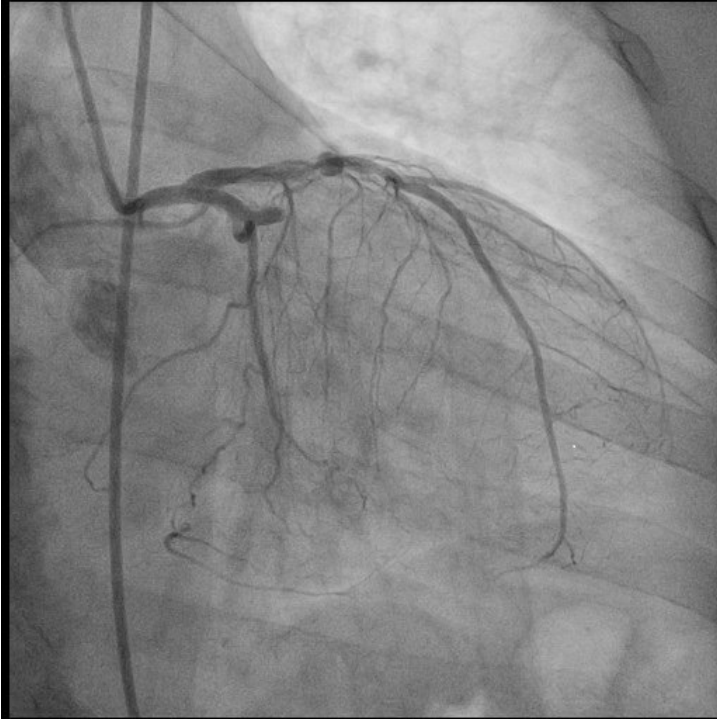
Management

- Admit to Hospitalist
- NTG gtt
- Heparin gtt per ACS protocol
- ASA
- Lipitor
- TTE and cardiology consult in AM

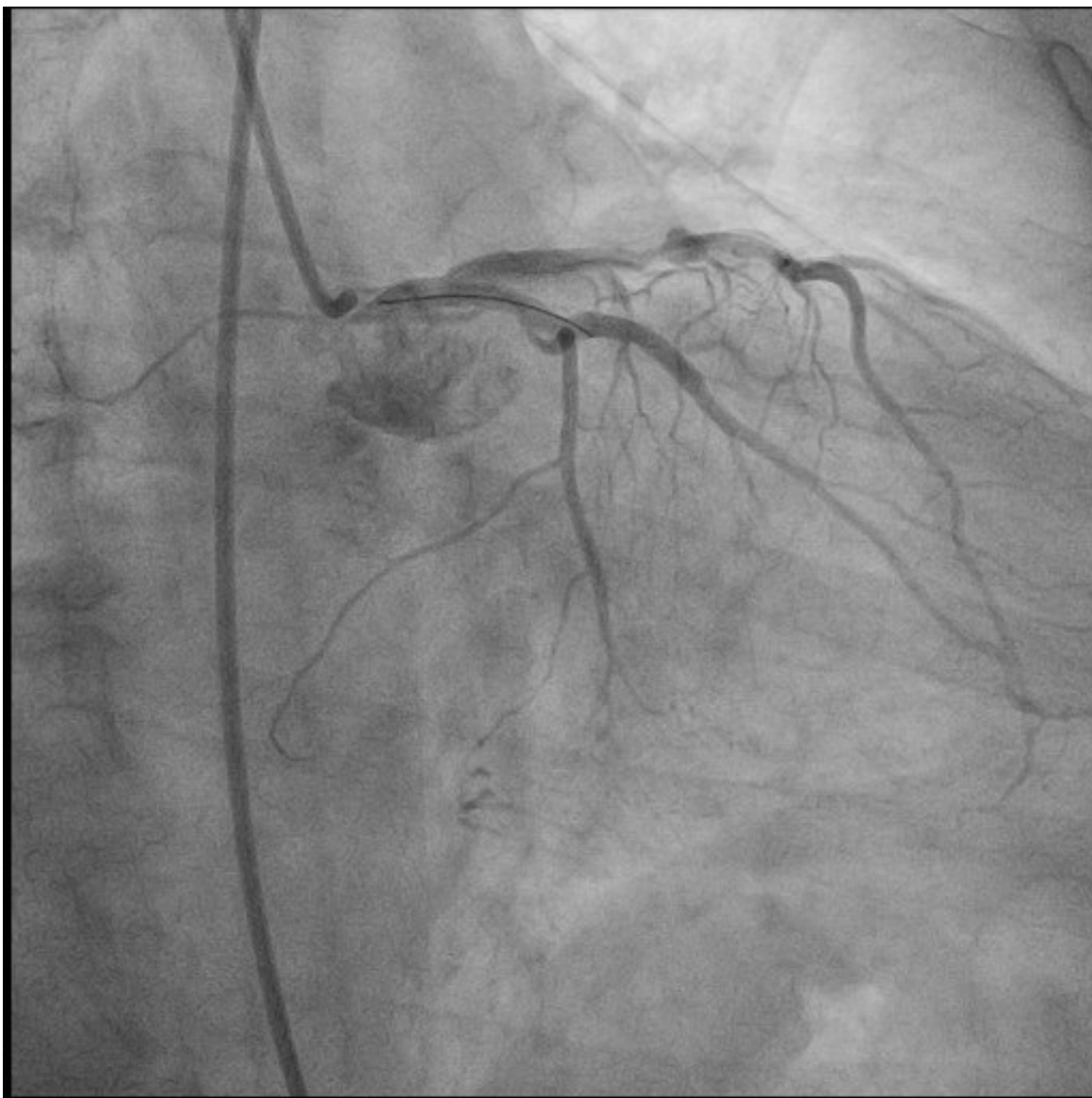


Management

- 8/26 4 am Troponin 20
- Patient has experienced waxing and waning chest pain
- Cardiology called directly on 8/26 at 830 am
- Patient to cath lab urgently with diagnosis of NSTEMI with persistent chest pain



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- 2.75 x 18 Onyx
- Post dilated with 3.0 NC Balloon



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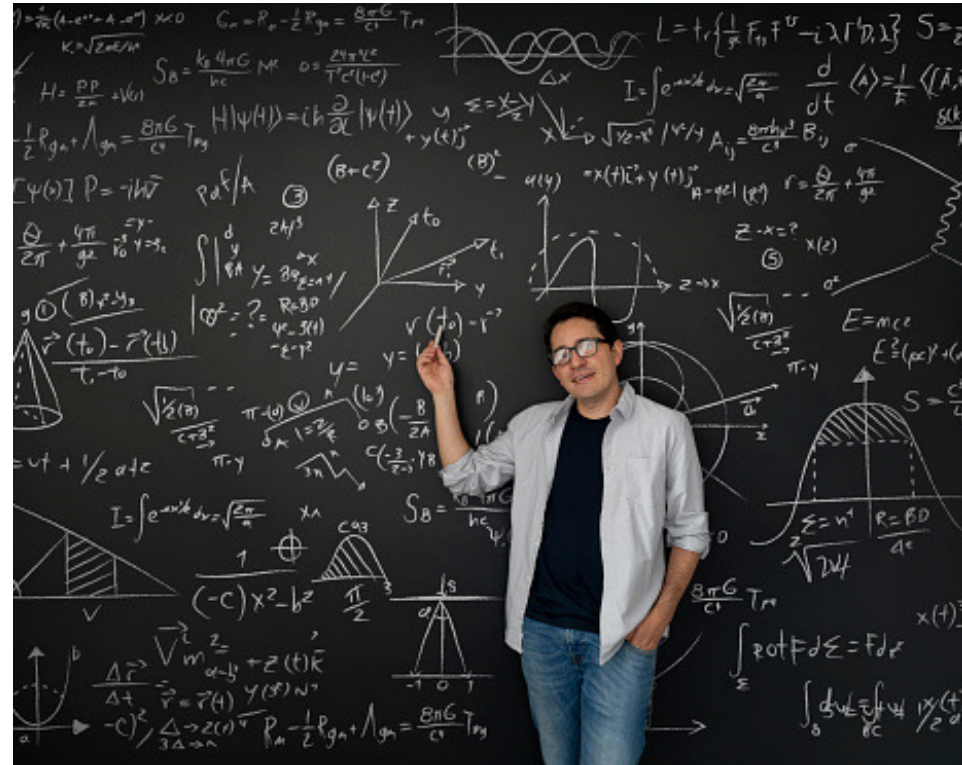
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Post LHC

- Peak Tn 70
- Peak CK 2500
- Echo – LVEF 45%, hypokinesia in lateral posterior segments
- Meds
 - Ticagrelor
 - Atorvastatin
 - Metoprolol
 - Lisinopril
 - ASA

Guidelines?

- This case highlights a number of points emphasized in the guidelines



“The Heart Team”

3.1. The Heart Team

Recommendation for the Heart Team

Referenced studies that support the recommendation are summarized in [Online Data Supplement 2](#).

| COR | LOE | RECOMMENDATION |
|-----|------|---|
| 1 | B-NR | 1. In patients for whom the optimal treatment strategy is unclear, a Heart Team approach that includes representatives from interventional cardiology, cardiac surgery, and clinical cardiology is recommended to improve patient outcomes (1-7). |

“The Heart Team”

- What is the optimal management strategy here?
- Does the patient have 3 vessel CAD that would warrant CABG consideration?



TABLE 4 Factors for Consideration by the Heart Team

Coronary Anatomy

- Left main disease
- Multivessel disease
- High anatomic complexity (i.e., bifurcation disease, high SYNTAX score)

Comorbidities

- Diabetes
- Systolic dysfunction
- Coagulopathy
- Valvular heart disease
- Frailty
- Malignant neoplasm
- End-stage renal disease
- Chronic obstructive pulmonary disease
- Immunosuppression
- Debilitating neurological disorders
- Liver disease/cirrhosis
- Prior CVA
- Calcified/porcelain aorta
- Aortic aneurysm

TABLE 4 Continued

Procedural Factors

- Local and regional outcomes
- Access site for PCI
- Surgical risk
- PCI risk

Patient Factors

- Unstable presentation or shock
- Patient preferences
- Inability or unwillingness to adhere to DAPT
- Patient social support
- Religious beliefs
- Patient education, knowledge, and understanding

CVA indicates cerebrovascular accident; DAPT, dual antiplatelet therapy; PCI, percutaneous coronary intervention; and SYNTAX, Synergy Between PCI With TAXUS and Cardiac Surgery.

Recommendation for Defining Coronary Artery Lesion Complexity: Calculation of the SYNTAX Score
Referenced studies that support the recommendation are summarized in [Online Data Supplement 4](#).

| COR | LOE | RECOMMENDATION |
|-----|------|---|
| 2b | B-NR | 1. In patients with multivessel CAD, an assessment of CAD complexity, such as the SYNTAX score, may be useful to guide revascularization (1-4). |

It looks like the patient has 3 vessel CAD...



If CABG is considered

- What is optimal management for culprit lesion at the current moment?
 - PTCA and ship for CABG evaluation
 - BMS vs DES
 - Duration of dual antiplatelet therapy

If PCI is considered

- When should PCI be considered for non-culprit lesions?

Recommendations for Revascularization of the Non-Infarct Artery in Patients With STEMI

Referenced studies that support the recommendations are summarized in [Online Data Supplement 8](#).

| COR | LOE | RECOMMENDATIONS |
|---------|------|--|
| 1 | A | 1. In selected hemodynamically stable patients with STEMI and multivessel disease, after successful primary PCI, staged PCI of a significant non-infarct artery stenosis is recommended to reduce the risk of death or MI (1-4). |
| 2a | C-EO | 2. In selected patients with STEMI with complex multivessel non-infarct artery disease, after successful primary PCI, elective CABG is reasonable to reduce the risk of cardiac events. |
| 2b | B-R | 3. In selected hemodynamically stable patients with STEMI and low-complexity multivessel disease, PCI of a non-infarct artery stenosis may be considered at the time of primary PCI to reduce cardiac event rates (1,2,5-7). |
| 3: Harm | B-R | 4. In patients with STEMI complicated by cardiogenic shock, routine PCI of a non-infarct artery at the time of primary PCI should not be performed because of the higher risk of death or renal failure (8-10). |

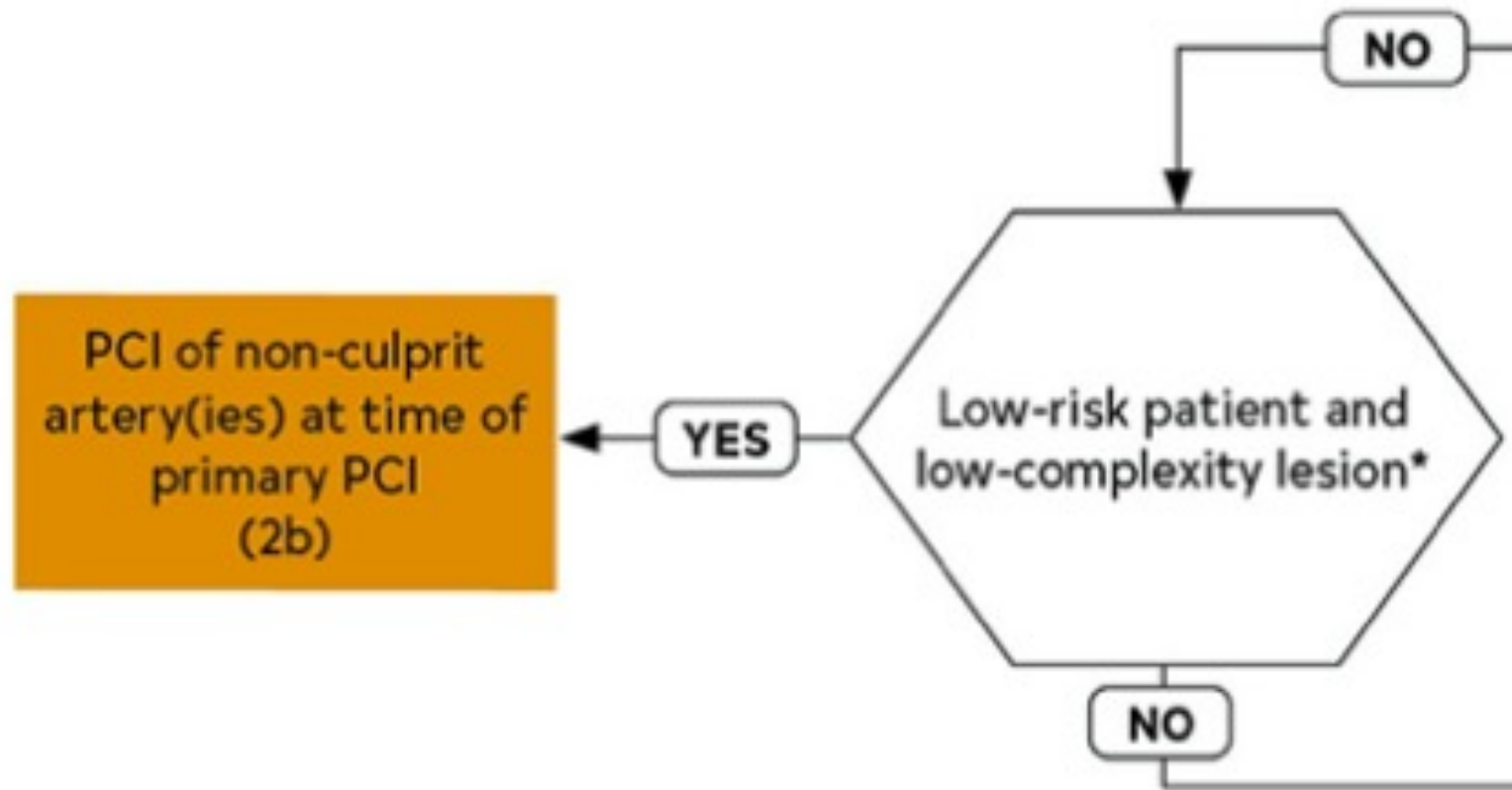
A Heart Team approach is utilized to determine optimal revascularization strategy in patients with STEMI and multivessel CAD. Revascularization strategies (**Figure 4**) for patients with STEMI and multivessel disease include multivessel PCI at the time of primary PCI, PCI of the infarct artery only followed by staged PCI of a non-infarct artery, PCI of the infarct artery only with an ischemia-guided approach to treatment of a non-infarct artery, or PCI of the infarct artery only with elective CABG. Observational studies and meta-analyses have reported conflicting results for the superiority of one approach over another (11). Recent randomized trials of PCI in STEMI

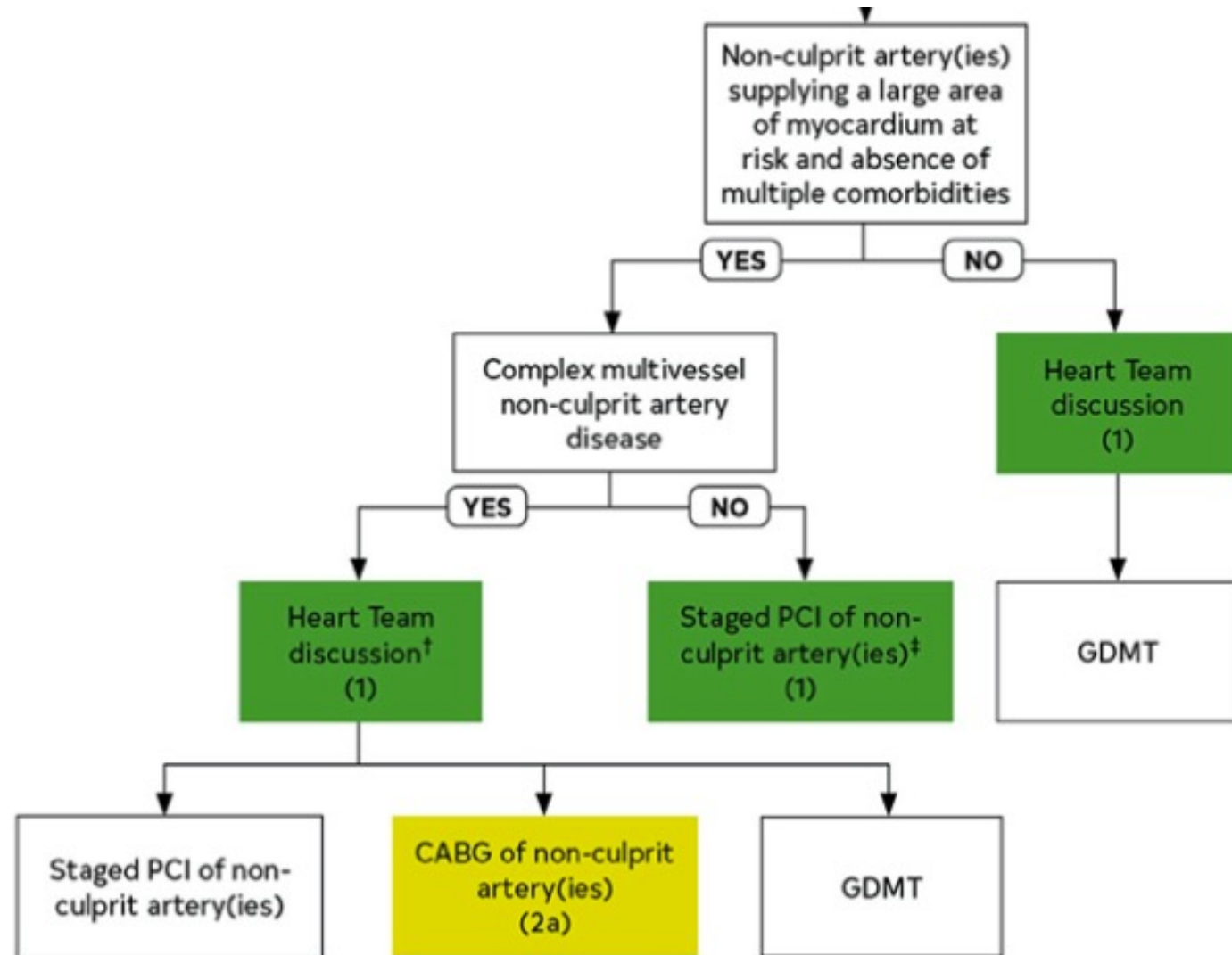


FIGURE 4 Revascularization of Noninfarct-Related Coronary Artery Lesions in Patients With STEMI



Colors correspond to [Table 2](#). CABG indicates coronary artery bypass graft; GDMT, guideline-directed medical therapy; PCI, percutaneous coronary intervention; and STEMI, ST-segment-elevation myocardial infarction. *Normal blood pressure and heart rate left ventricular end-diastolic pressure <20 mm Hg, no chronic renal insufficiency or acute kidney injury, and expected total contrast volume <3× glomerular filtration rate, simple lesion anatomy. †In making the decision about the need for and mode of revascularization the Heart Team should consider the suitability of the non-culprit artery for PCI, the coronary complexity and the risk of revascularization, the extent of myocardium at risk, and patient comorbidities, including life expectancy or other significant patient comorbidities, such as chronic renal insufficiency or acute kidney injury. ‡Staged PCI can be performed in hospital or after discharge, up to 45 days post MI. ⌋ Symbol denotes time elapsed before proceeding to the next procedure. This algorithm summarizes the recommendations in this guideline for the care of patients with STEMI and noninfarct artery disease. It is not meant to encompass every patient scenario or situation, and clinicians are encouraged to use a Heart Team approach when care decisions are unclear and to see the accompanying supportive text for each recommendation. Additionally, in situations that lack sufficient data to make formal recommendations for care, please see [Section 17](#), “Unanswered Questions and Future Directions.”





Having a surgeon in the control room...

- This is not a reality for many facilities in the state
- This multidisciplinary team is unfortunately difficult to assemble in Primary PCI facilities that don't have in house cardiac surgery
- In Kentucky, greater efforts need to be made for these facilities to coordinate the activation of Heart Teams in collaboration with regional facilities that have cardiac surgery availability.



Thank you!



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