LA RIVASCOLARIZZAZIONE IBRIDA: E' POSSIBILE PENSARCI ANCHE NEL PAZIENTE NON ACUTO?

A. MONTALTO

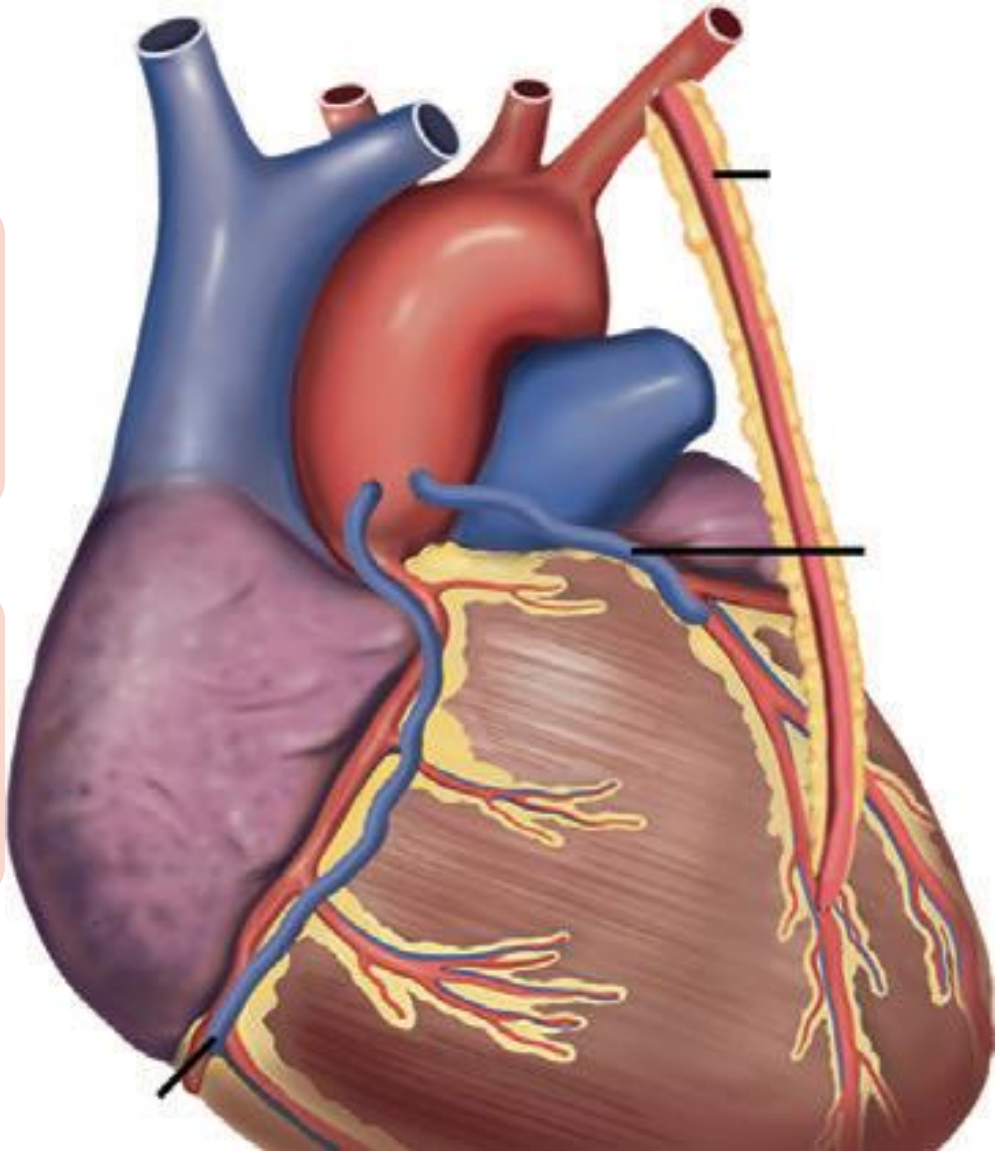
RISKS

↑LENGHT STAY

↑ 30 D MACCE

BENEFITS

↓ LONG TERM MACCE

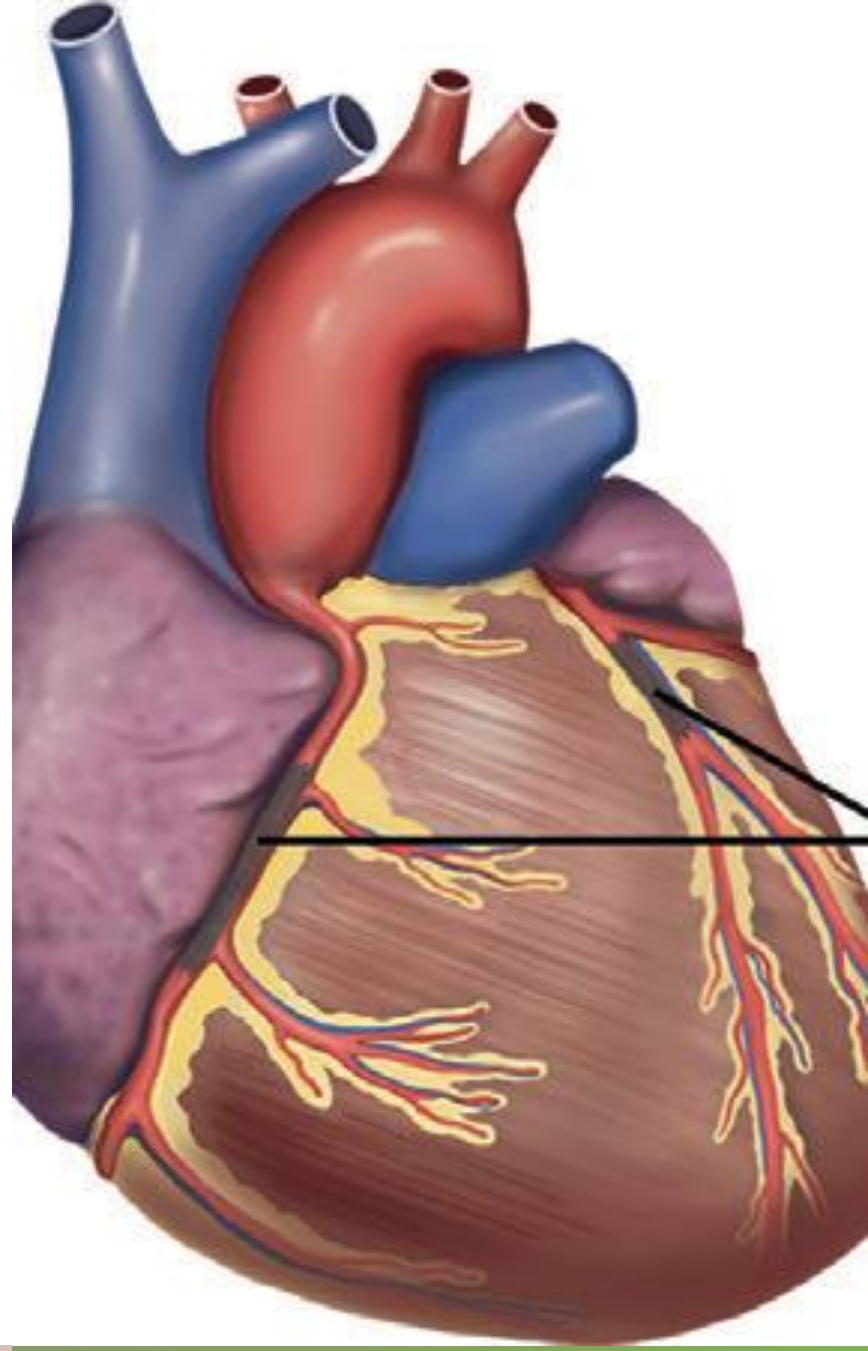


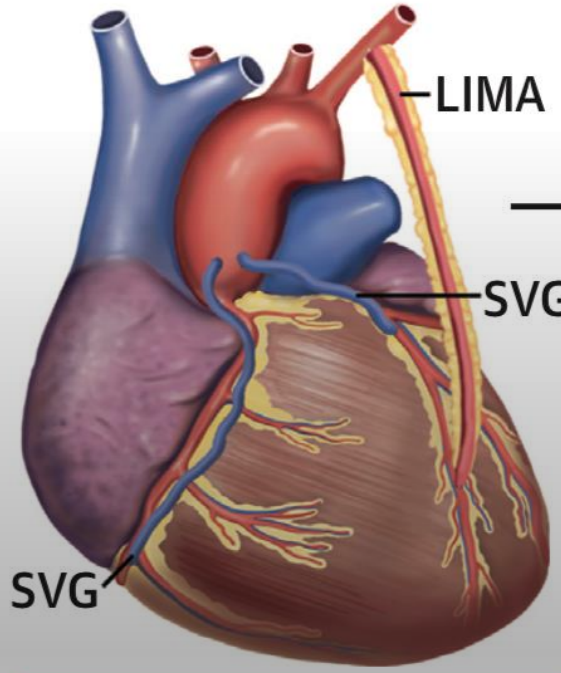
↓30 D MACCE

↓LENGHT OF STAY

↑PATENCY VS SVG

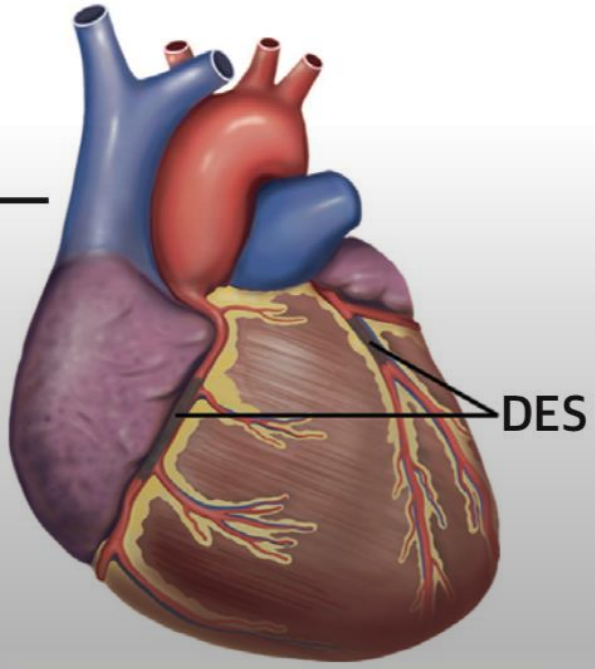
↑ LONG TERM MACCE





Synergistic LIMA-LAD and DES-non-LAD Lesion(s)

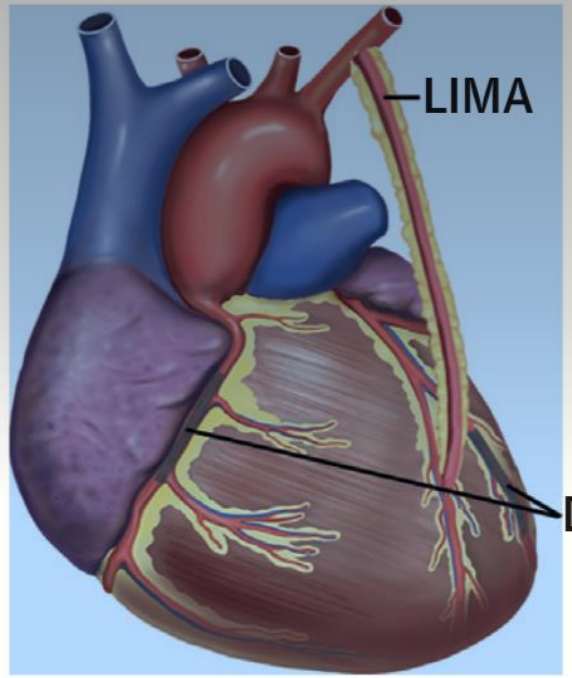
HYBRID PROCEDURE



- ↑ 30-day MACCE
- ↑ Length of stay
- ↓ Long-term MACCE*

- ↓ 30-day MACCE
- ↓ Length of stay
- ↑ Patency versus SVGs
- ↑ Long-term MACCE*

- Excellent long-term event-free survival
- Fast recovery
- Short length of stay
- Sternal sparing surgery



TIMING OF THE HCR PROCEDURES.

- Three possible timing strategies can be used

1-Step HCR

MIDCAB followed by PCI as 1 procedure

Complete revascularization achieved in a single procedure; CABG of non-LAD lesions can be performed in PCI that is unsuccessful or complicate

Allows immediate assessment of the LIMA-LAD anastomoses

Short hospital stay and possibly better patient satisfaction

Requires a hybrid room

Potential increase in bleeding, AKI and stent thrombosis

2-Step HCR

MIDCAB first followed by PCI on another day

Prior LIMA-LAD graft can be angiographically assessed and treated if required during the second stage of the procedure

Allows use of dual antiplatelet therapy without increasing the risk of surgical-related bleeding

Less myocardium at ischemic risk during the PCI

During the waiting period, the patient may require urgent revascularization of the non-LAD lesions

Reverse HCR

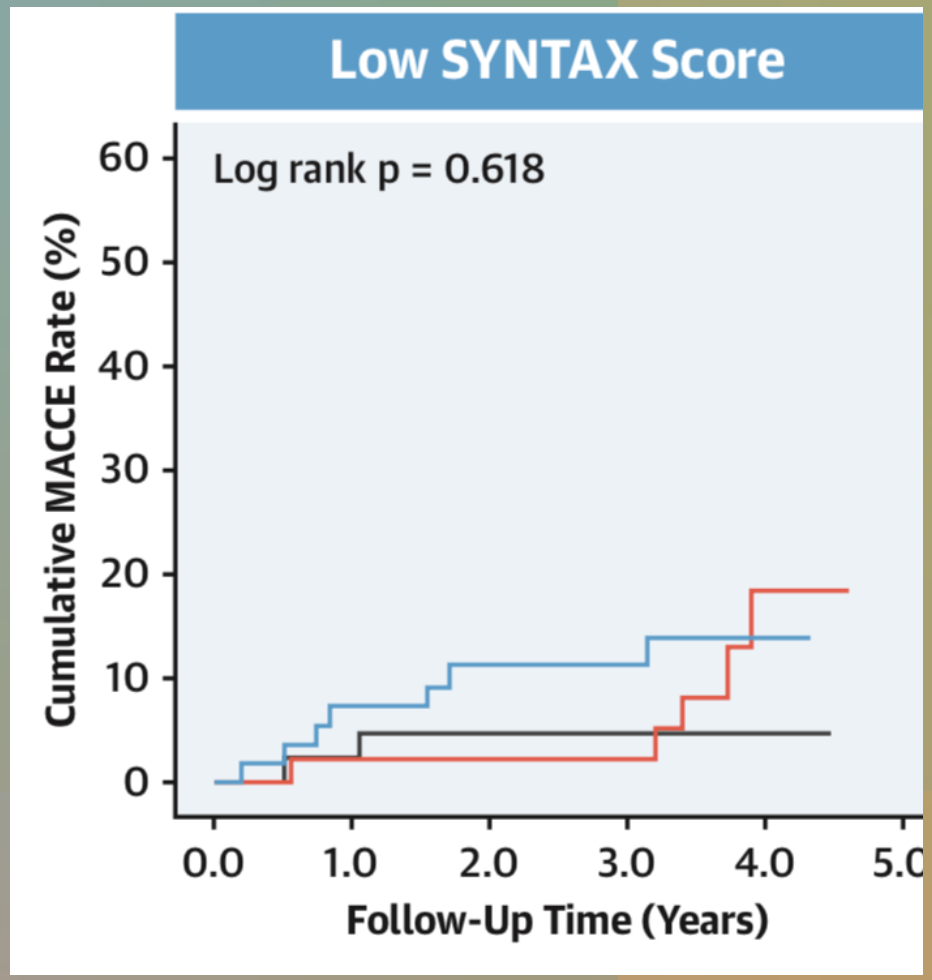
PCI first followed by MIDCAB on another day

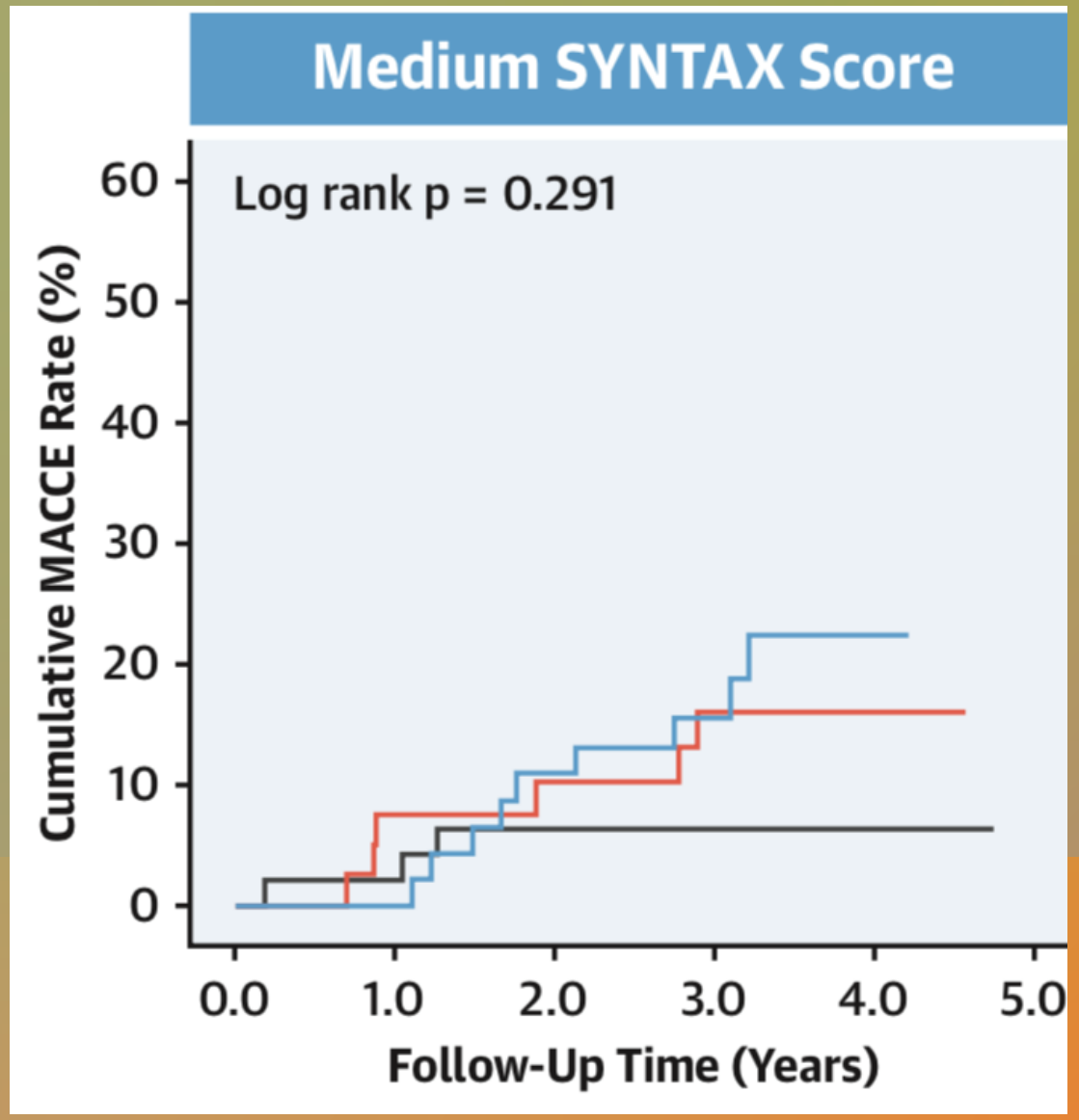
Most common approach for patients presenting with ACS of non-LAD lesions, or if non-LAD lesion severity is much greater than LAD lesion severity

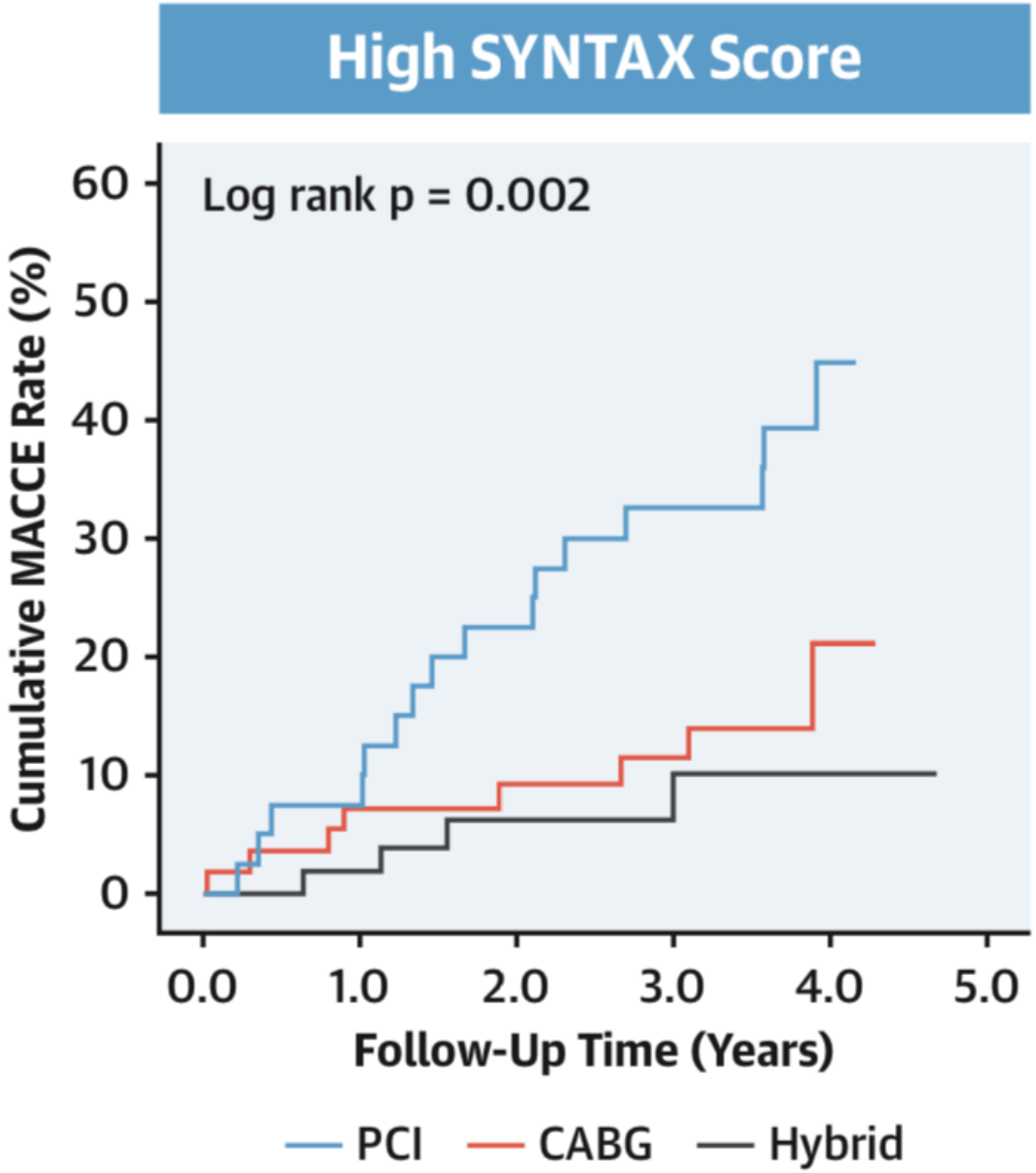
If unsuccessful PCI, CABG can be performed during second stage of the procedure

Complex antiplatelet therapy management; potentially higher risk of stent thrombosis and/or bleeding

Unable to angiographically assess the LIMA-LAD may require urgent revascularization graft

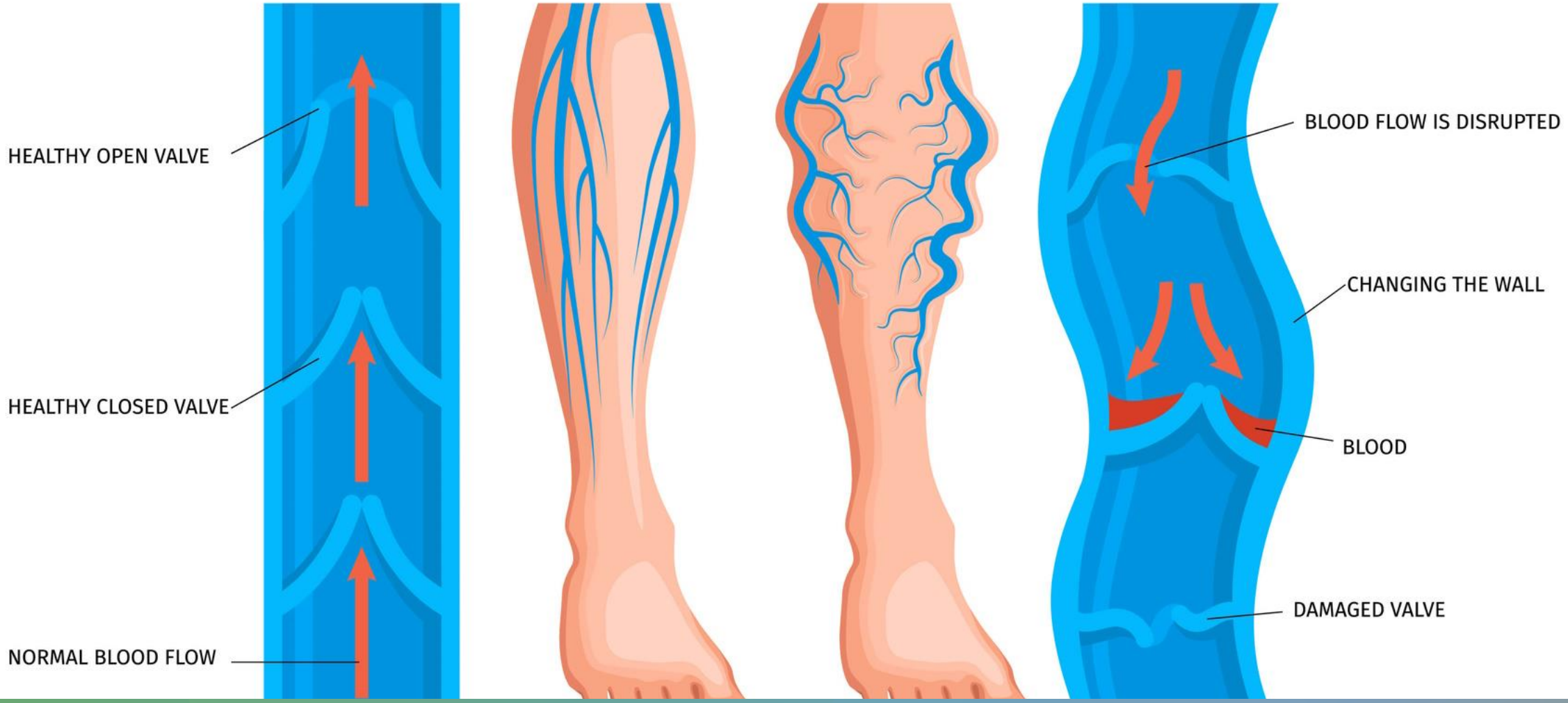

Low SYNTAX Score
Log rank p = 0.618
Cumulative MACCE Rate (%)
60
50
40
30
20
10
0
0.0
1.0
2.0
3.0
4.0
5.0
Follow-Up Time (Years)


Medium SYNTAX Score
Log rank p = 0.291
Cumulative MACCE Rate (%)
60
50
40
30
20
10
0
0.0
1.0
2.0
3.0
4.0
5.0
Follow-Up Time (Years)


High SYNTAX Score
Log rank p = 0.002
Cumulative MACCE Rate (%)
60
50
40
30
20
10
0
0.0
1.0
2.0
3.0
4.0
5.0
Follow-Up Time (Years)
PCI
CABG
Hybrid

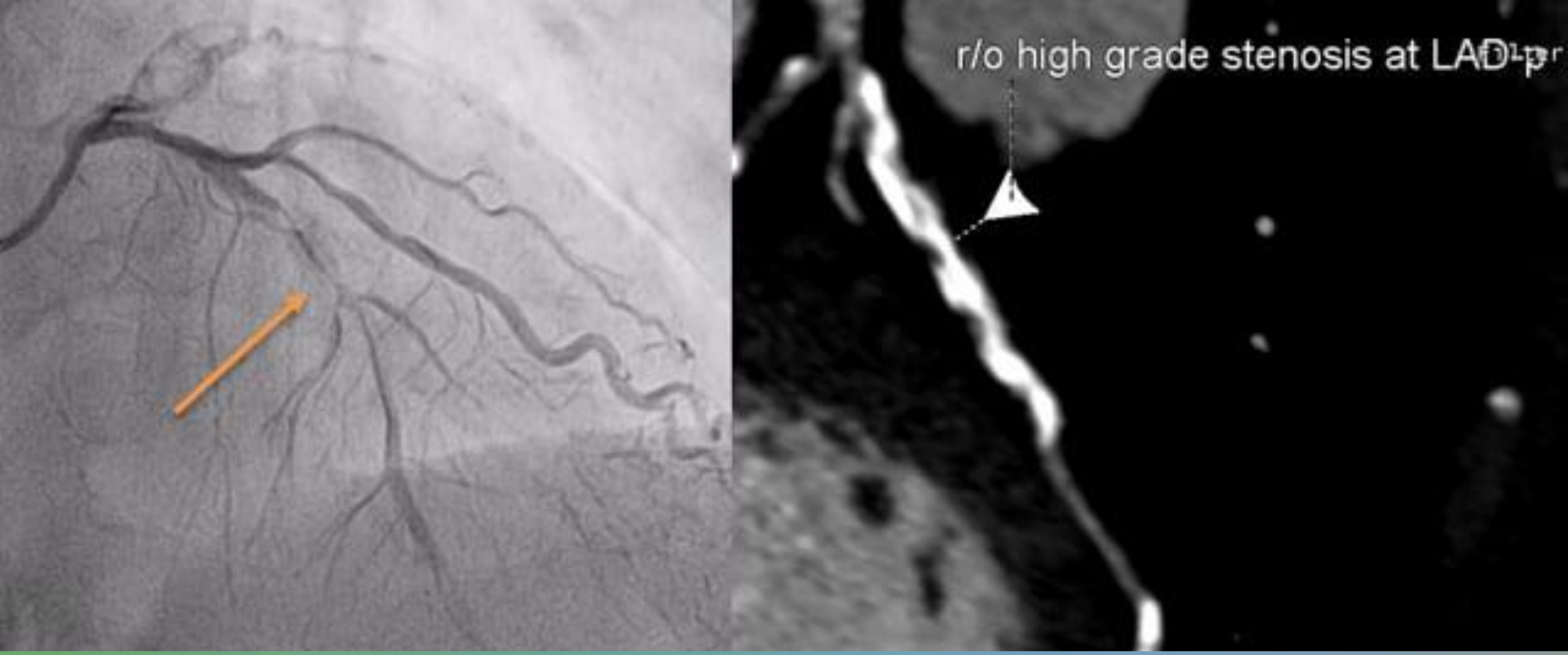
HYBRID

NO CHOICE



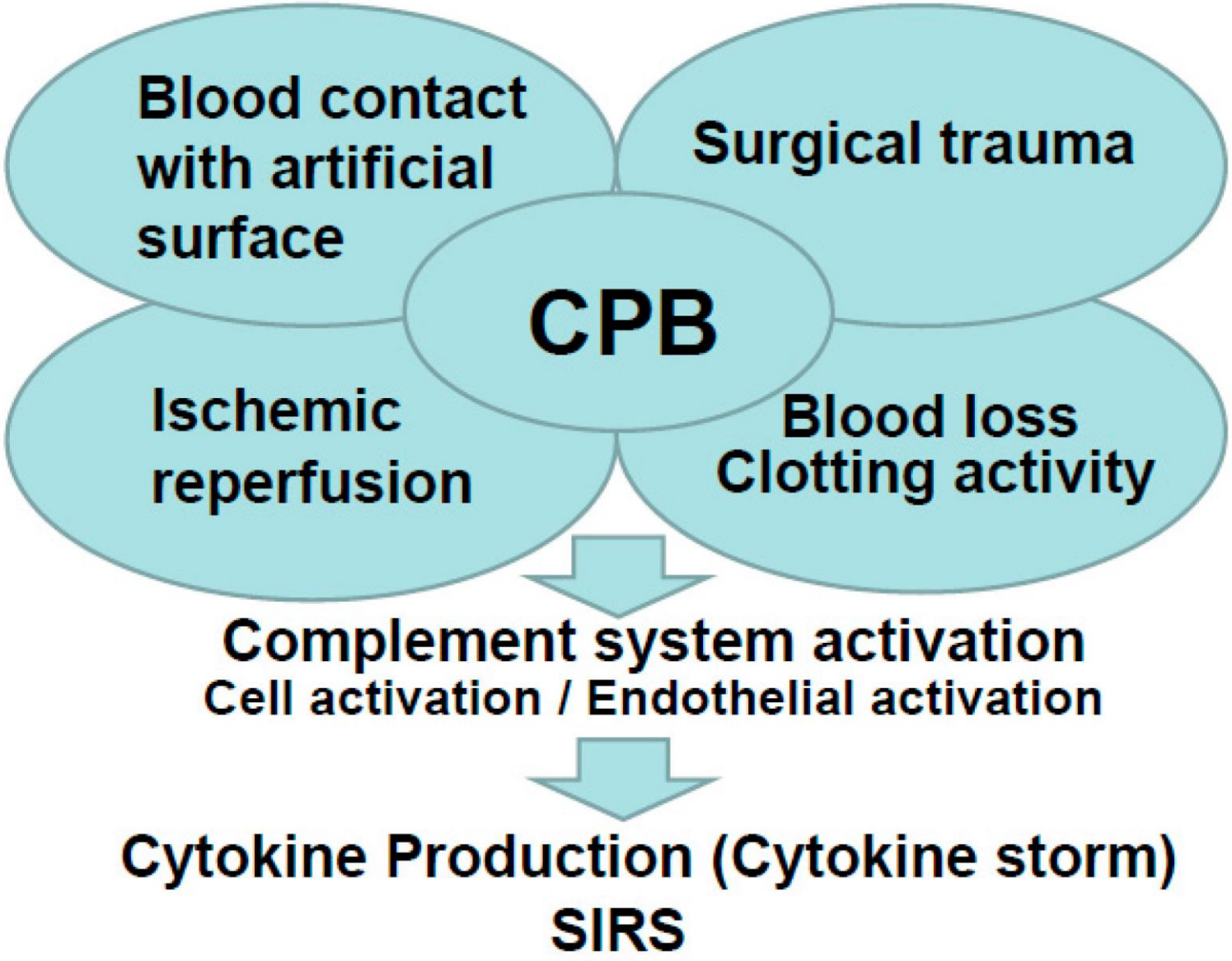
NO GOOD CONDUITS

AORTA CALCIFIED



EXSTENSIVE CORONARY CALCIFICATION

RISKS RELATED TO CPB



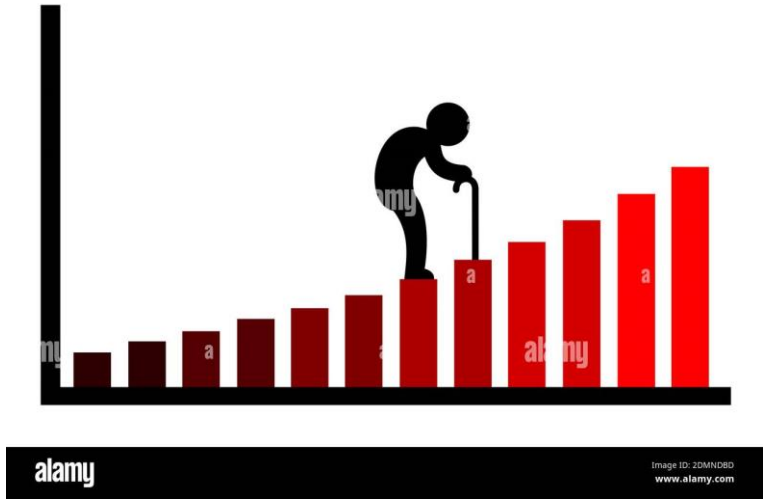


Table 1. Post-CABG complications

Post-CABG complications

Infectious

- Pneumonia
- Urinary tract infection
- Mediastinal infection
- Superficial wound infection
- Deep space wound infection
- Organ-space wound infection
- Systemic sepsis or septic shock
- Empyema

Gastrointestinal

- Nausea and vomiting
- Ileus (paralytic or function)
- Hepatic dysfunction
- Pancreatitis
- Colitis (infectious or ischemic)

Respiratory

- Pleural effusion
- Phrenic nerve dysfunction
- Respiratory failure/ARDS
- Prolonged mechanical ventilation
- Post-op pain and splinting
- Atelectasis

Cardiovascular

- Deep venous thrombosis
- Pulmonary embolism
- Myocardial infarction
- Hypotension
- Arrhythmia
- Cardiogenic pulmonary edema
- Graft failure
- Cardiogenic shock
- Chest pain
- Distal ischemia
- Cardiac tamponade
- Pulmonary hypertension
- Hemothorax
- Wound dehiscence
- Right ventricular failure

Neurologic

- Stroke
- Watershed infarcts
- Neurocognitive impairment

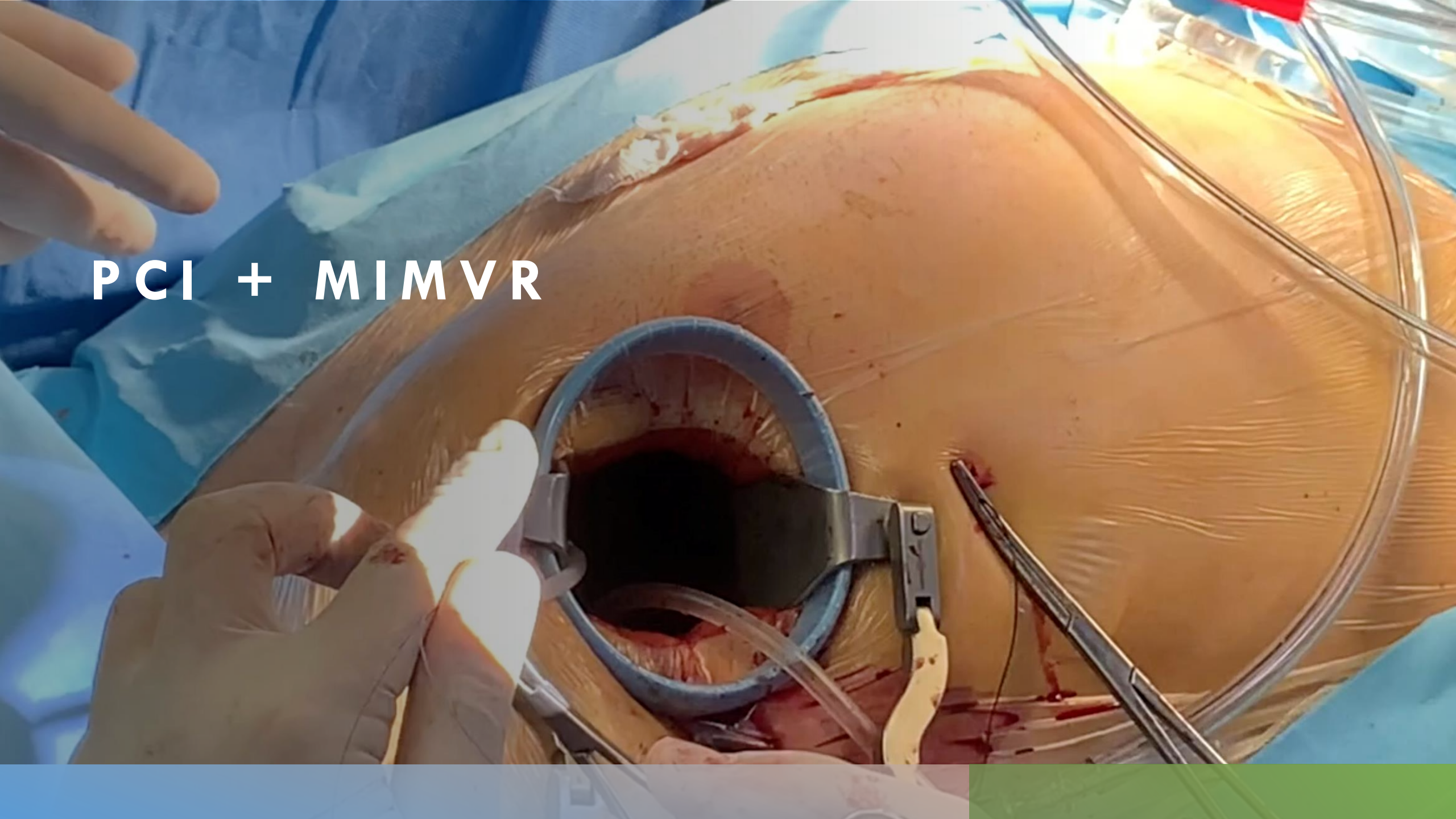
Hematologic

- Mediastinal bleeding
- Platelet dysfunction
- Coagulopathy
- Anemia
- Hemolysis

Renal

- Acute renal failure
- Kidney injury
- Electrolyte disturbances


HYBRID
=
MINIMVAL
INVASIVE
VALVE
PROCEDURE
+
PCI


PCI + MIMVR

PCI + MIAVR

•CONCLUSION

A	FASTER RECOVERY TIME COMPARED WITH TRADITIONAL CABG
D	
V	REDUCED NEUROLOGICAL EVENTS, BLEEDING, INFECTION, TIME OF MECHANICAL VENTILATION, AND LENGTH OF STAY COMPARED WITH TRADITIONAL CABG
A	
N	STERNAL-SPARING INCISIONS, NO AORTIC MANIPULATION, AND NO USE OF CARDIOPULMONARY BYPASS COMPARED WITH TRADITIONAL CABG
T	
A	HIGHER PATENCY RATE OF LAD LESIONS TREATED WITH A LIMA THAN DES, AND OF NON-LAD LESIONS TREATED WITH CONTEMPORARY DES COMPARED WITH SVGS
G	
E	THEORETICALLY BETTER LONG-TERM EVENT-FREE SURVIVAL COMPARED WITH MULTIVESSEL PCI OF CONVENTIONAL CABG
S	