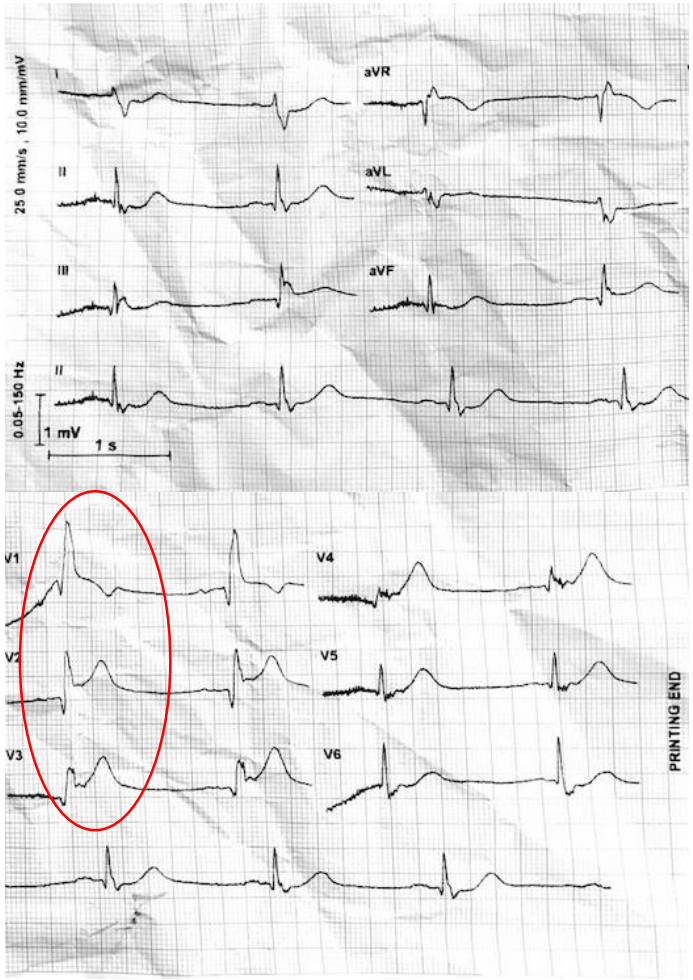
STEMI and cardiogenic shock: a clinical case

CLINICAL PRESENTATION

- Male pt 66 y.o. with no relevant past medical history

- Sudden onset of chest pain during physical effort associated with cold sweating and bradycardia (h 3.30 p.m.)

- EKG (h 3.50 p.m.): **anterior STEMI** → transport to hub center and intravenous acetilsalicilic acid load administration (500 mg)



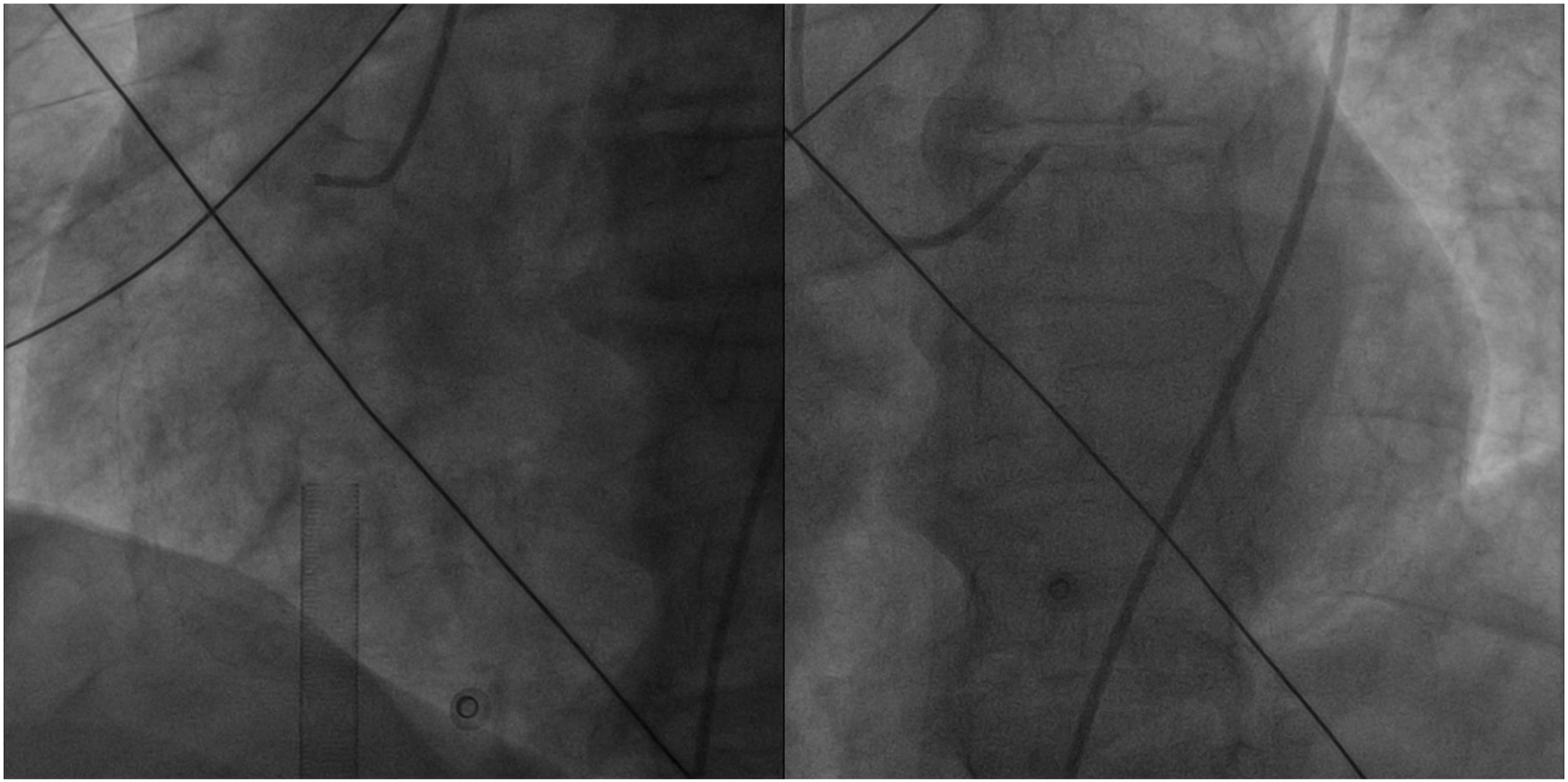
CLINICAL EVOLUTION

- At the arrival in the emergency room (h 4.20 p.m.) onset of pulseless electrical acitivity refractory to reanimation manouvres → intubation and positioning of mechanical chest compression device

- At transthoracic echocardiography observation of diffuse ipo-akynesia of all LV segments→ CARDIOGENIC SHOCK → **ECMO TEAM** activation (h 4.45 p.m.)

IN THE CATHLAB

- **UPFRONT MECHANICAL SUPPORT:** Total percutaneous Venous-Arterial ECMO (19F femoral arterial access and 25F femoral venous access) → nominal flows at 5.10 p.m (25 mins from ECMO TEAM activation) →

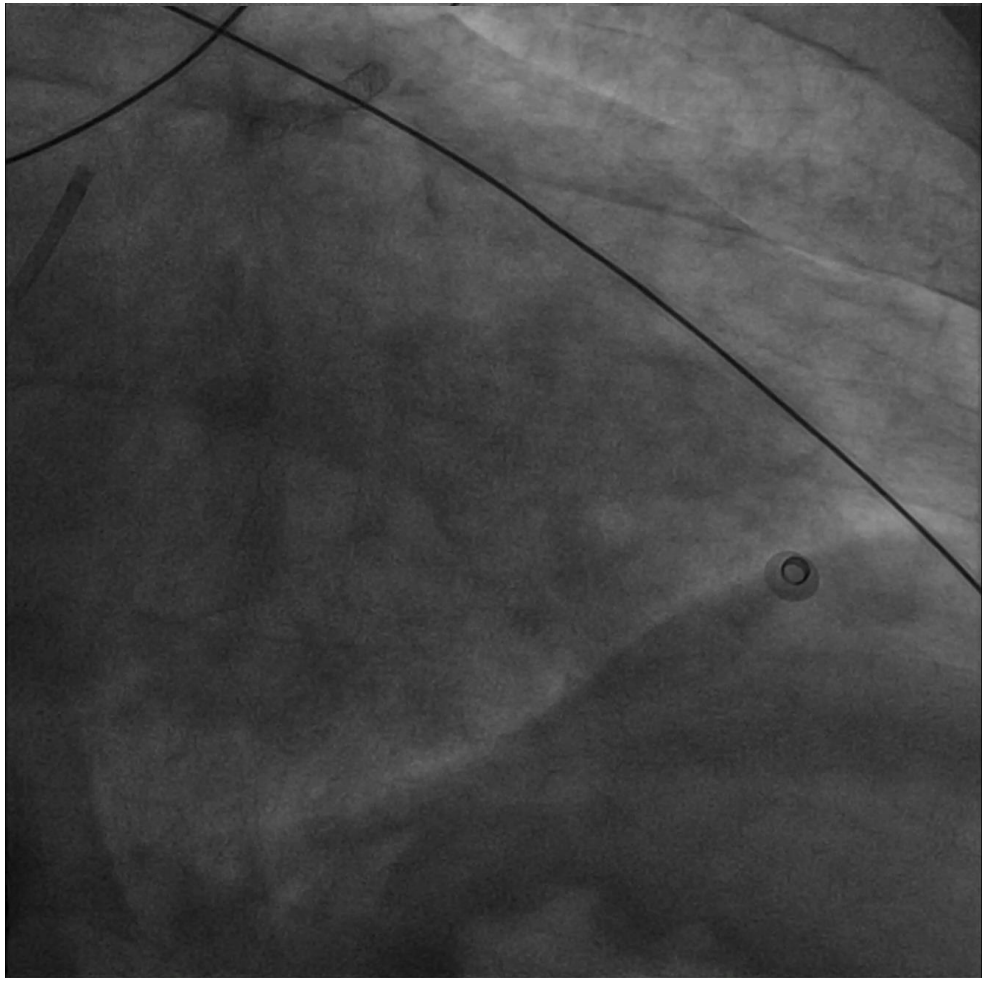


WHICH STRATEGY?

- **Heart Team activation**: due to the evidence of three-vessel ciritical disease complicated by cardiogenic shock, a percutaneous revascularization strategy was chosen

- Cangrelor iv bolus + maintenance was initiated

PERCUTANEOUS REVASCULARIZATION



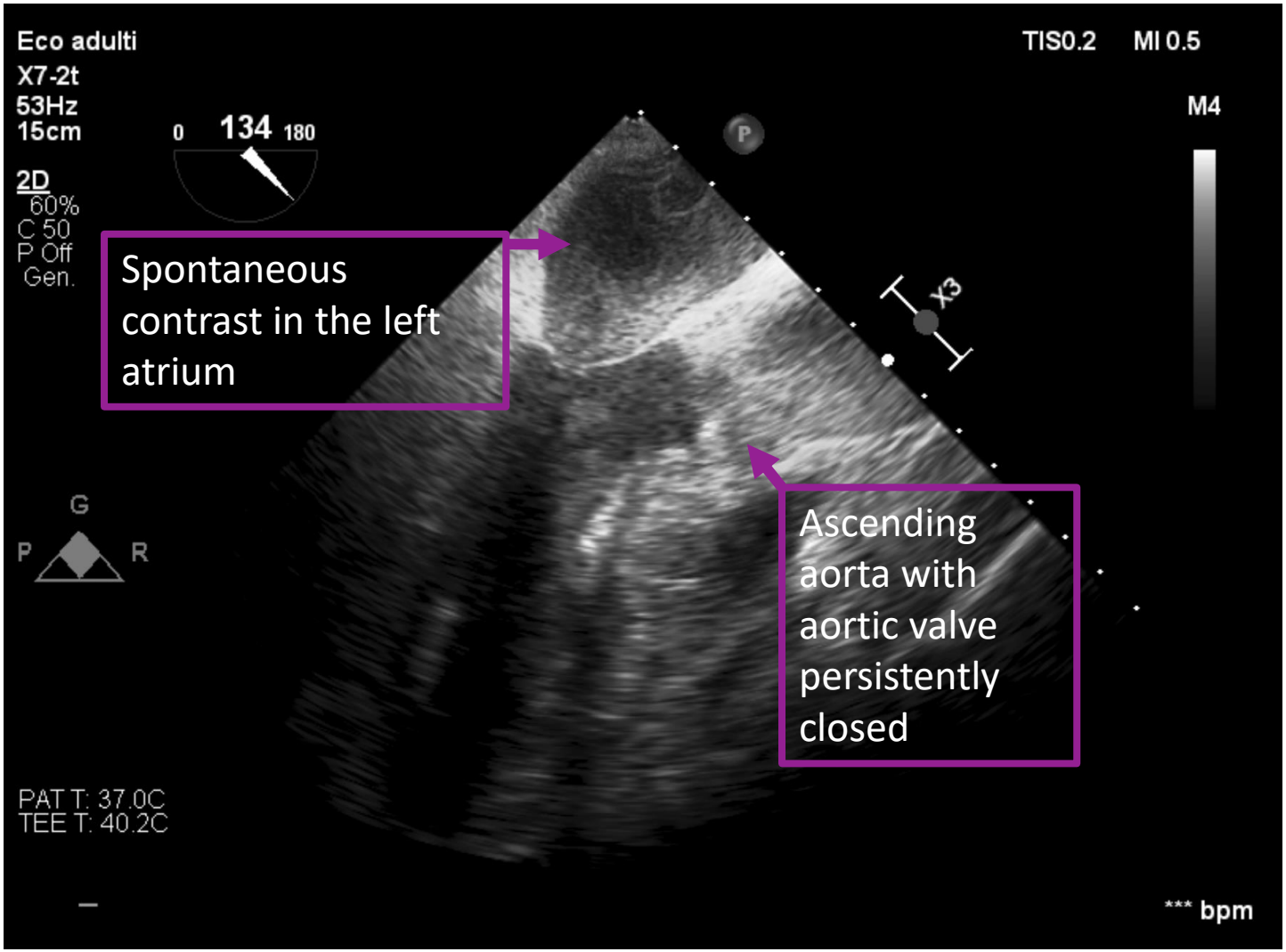
Left anterior descending artery
Single DES Synergy 3.5x32mm

Left circumflex stenting with single DES Synergy 3.0x28mm

Kissing balloon left circumflex and obtuse marginal branch with 2.5 mm and 3.5 mm Non-Compliant balloons

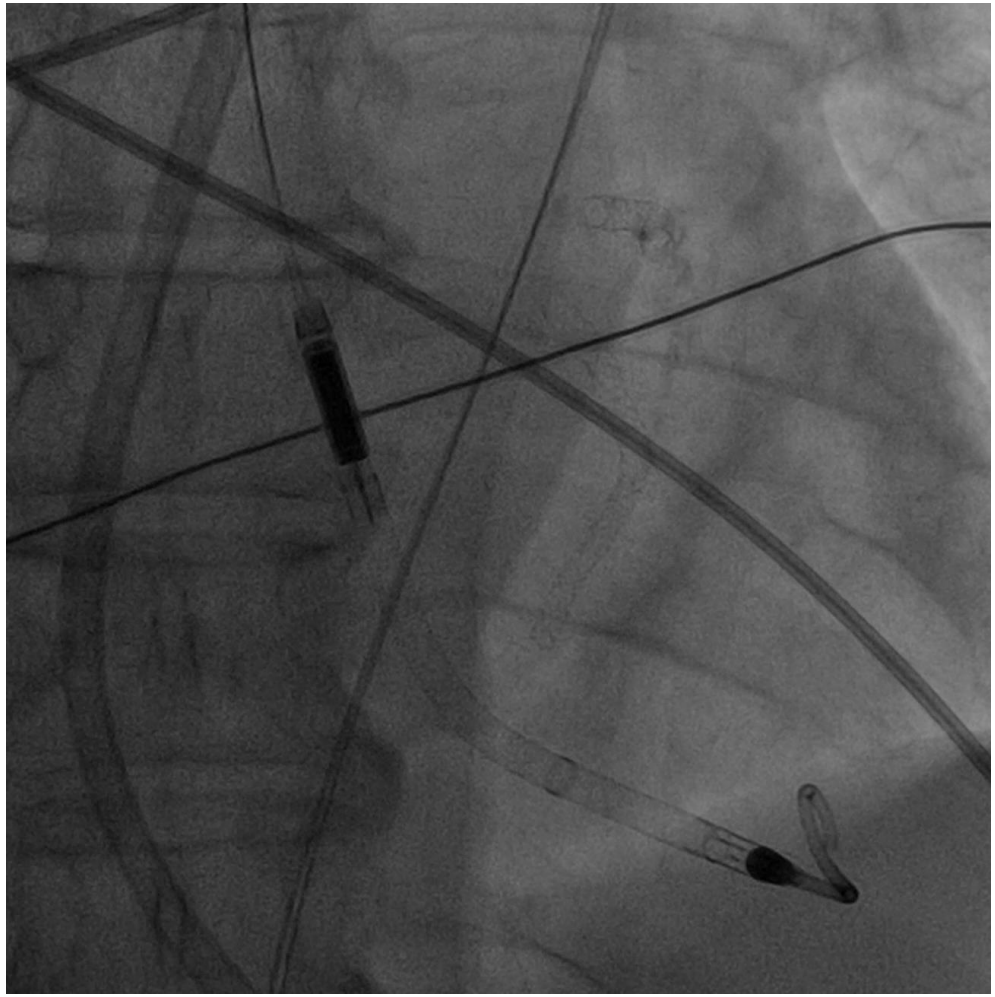
T-stenting of proper left circumflex with DES Synergy 2.5x20 mm

POST-REVASCULARIZATION



MECHANICAL SUPPORT

Upgrade to **ECPELLA** strategy with Percutaneuos Impella 2.5



IN THE NEXT 72h

- Hemodynamics supported by nominal flows VA-ECMO (3490 rpm -4.65 L/min) + Impella (Flow P-6) + Dobutamine and Noradrenaline. TTE bed side: LV volumes in reduction with persistence of severe global dysfunction, RV non dilated with normal sistolic function

- Progressive improvement of ventricular function allowed weaning from inotropes supported by Levosimendan cycles

- After 72h the patient was weaned from the mechanical support

TAKE-HOME MESSAGES

- Appropriate management of cardiogenic shock is a debated argument
- In this setting time is crucial: a total percutaneous approach for mechanical support and revascularization is feasible, safe and effective
- A rapid parenteral antiaggregation is mandatory to reach an adequate platelet inhibition

THANK YOU FOR THE ATTENTION!