Role of hemodynamic support in setting of cardiogenic Shock and acute myocardial infarction

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Case Objectives

• Understand role of hemodynamic support devices (Impella and Intra aortic balloon pump) in setting of cardiogenic shock and acute myocardial infarction.
Case Report

• 66 year old male with history of hypertension, diabetes mellitus, dyslipidemia, chronic kidney disease stage III who presented with epigastric cramping, nausea and vomiting. Hypotensive (BP 83/54) on arrival to ED. EKG showed acute inferior STEMI. Was given ASA 325 mg, Prasugrel 60 mg and heparin bolus 4000 units and taken urgently to cardiac cath lab.
Initial Angiogram
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Balloon angioplasty of LCx

Bivalirudin bolus and drip for anticoagulation
Post Balloon LCx
Aspiration thrombectomy of LCx
• After LCx aspiration thrombectomy, the patient was more hypotensive, so an **intra-aortic balloon pump** was inserted via the right common femoral artery.
Stenting LCx

3.0 x 18mm BMS at 14 ATM for 10 seconds in prox LCX
2.75 x 18mm BMS, distal to the previous stent
Post LCx stenting

• TIMI-0 flow noted in the LAD beyond D2.
• O2 sats dropped into 60's.
• Pt had PEA arrest. CPR started and Pt intubated.
• Return of circulation after 2 cycle of CPR. Started on epinephrine drip.
IABP switched to Impella CP.
Final result: 2.75 x 26mm BMS in mid LAD and 3.0 x 30mm BMS in prox LAD
Hospital Course

- Impella CP was left in place for 1 day followed by Impella 5.0 for 5 more days. Final EF 45% on discharge.
- Pt improved clinically after a prolonged hospital course and was subsequently discharged to a rehabilitation facility.
Teaching Points

• Delayed presentation of STEMI can have delayed benefits from revascularization and may need longer hemodynamic support.

• Checking ACT on bivalirudin.