Emergency Transcatheter Aortic Valve Replacement in Cardiogenic Shock due to Acutely Failed Aortic Bioprosthetic Valve

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Disclosures

- **No relevant financial relationships**

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Introduction/Objective:

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- Its use in patients with cardiogenic shock is limited.
- We describe a patient with cardiogenic shock secondary to a degenerated bioprosthetic aortic valve and successfully underwent an emergent ViV TAVR via a transaxillary approach.

Case Description:

- An 87-year-old man with a past medical history of bioprosthetic aortic valve replacement with a 27 mm Trifecta valve (St. Jude Medical, Inc., St. Paul, MN) and 4V CABG 8 years ago.
- CC: SOB and malaise that started suddenly 2 days prior to admission.
- PMHx: HTN, CKD3, PAD with aortoiliac stent graft with a stenting in the left common iliac artery.

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Case Description:

- Vital signs
  - BP 154/39, HR 110 BPM, RR 21, T 36.7°C, SpO2 89%
- Physical examination:
  - General: The patient was in moderate distress.
  - Lung: Crackles present bilaterally.
  - Cardiac: Grade IV/VI diastolic murmur, bounding pulses present bilaterally. JVP up to 12 cm. Positive for bilateral lower extremity edema.

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- Admitted for acute hypoxic respiratory failure secondary to decompensated heart failure.

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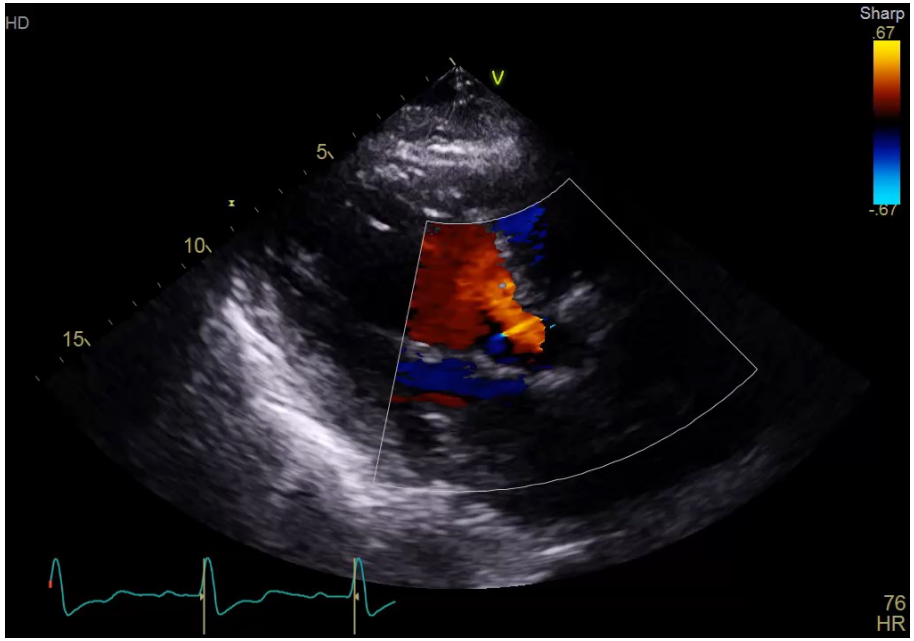
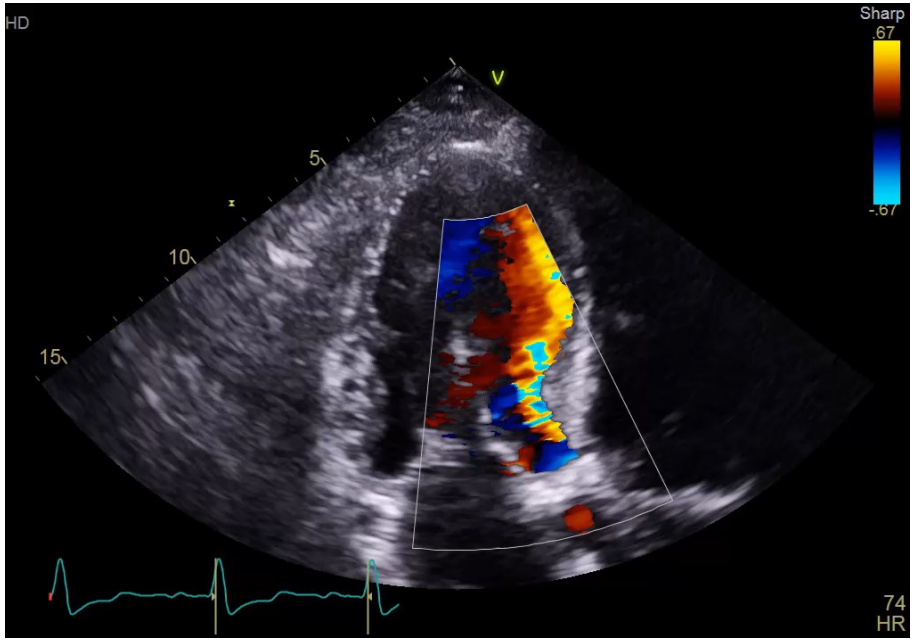
TTE



PLAX



A3C

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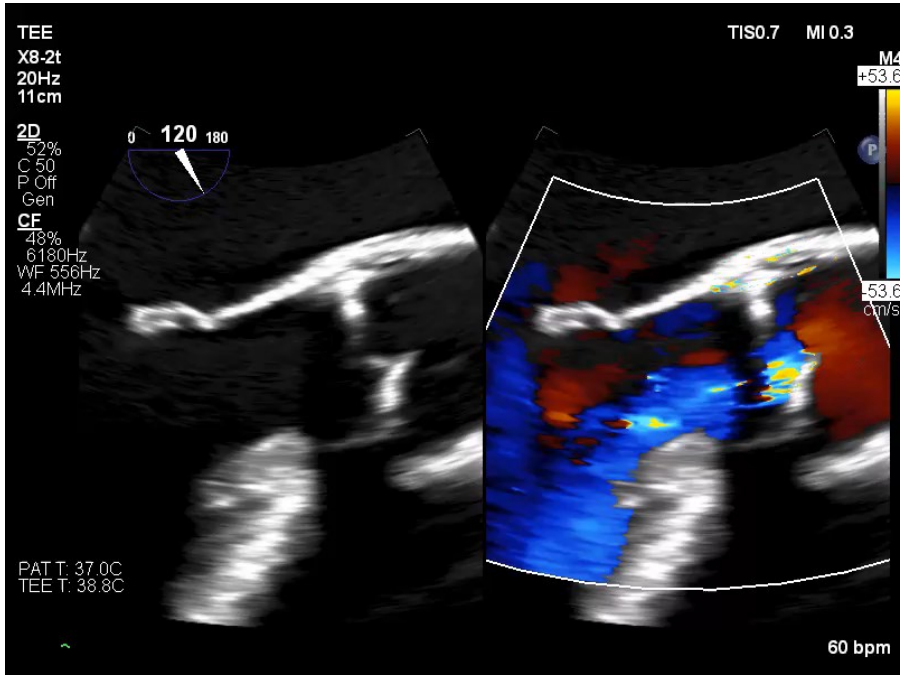
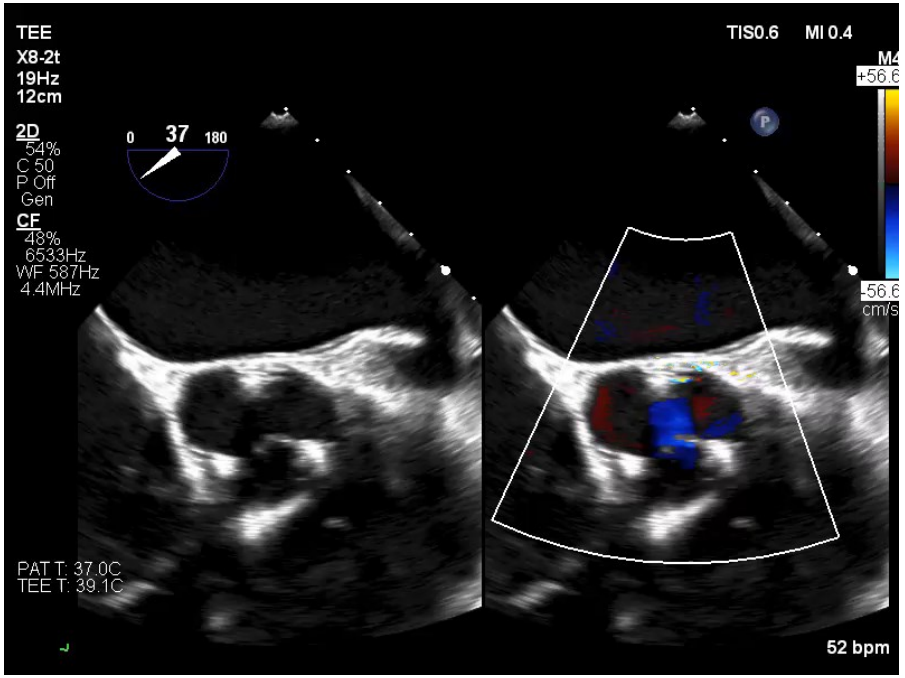


mid esophageal 120°



mid esophageal 37°

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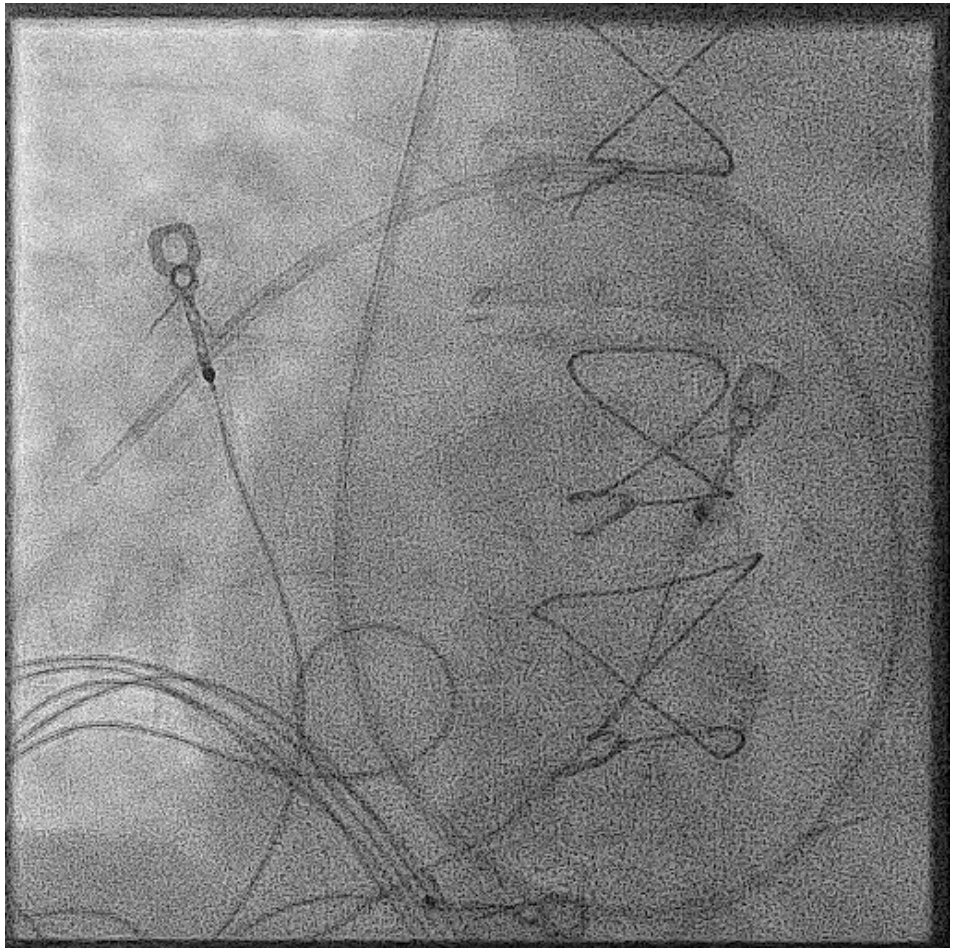

RHC
RA: 15
PA: 63/28 mean 35
PCWP: mean 30, V waves 38
Fick CO: 2.48. Fick CI 1.24

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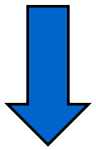
Hospital Course

Admitted to CCU for inotropic support
and lasix gtt



Evaluated by CT surgery and
structural heart teams

- Coronary angiogram: all bypass grafts were patent
- STS score: 18.7%
- Severe PAD: TAVR access site problematic

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Hospital Course

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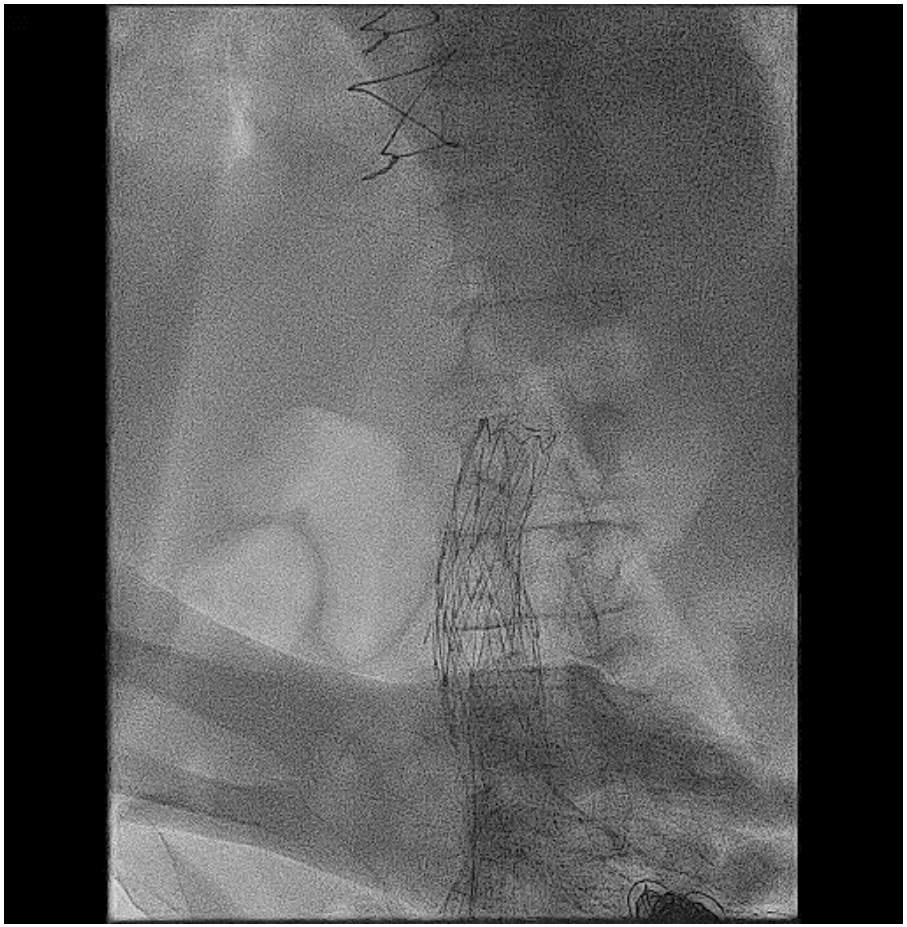
Plan by Heart Team

- Transaxillary access TAVR

Procedure: TVP Access



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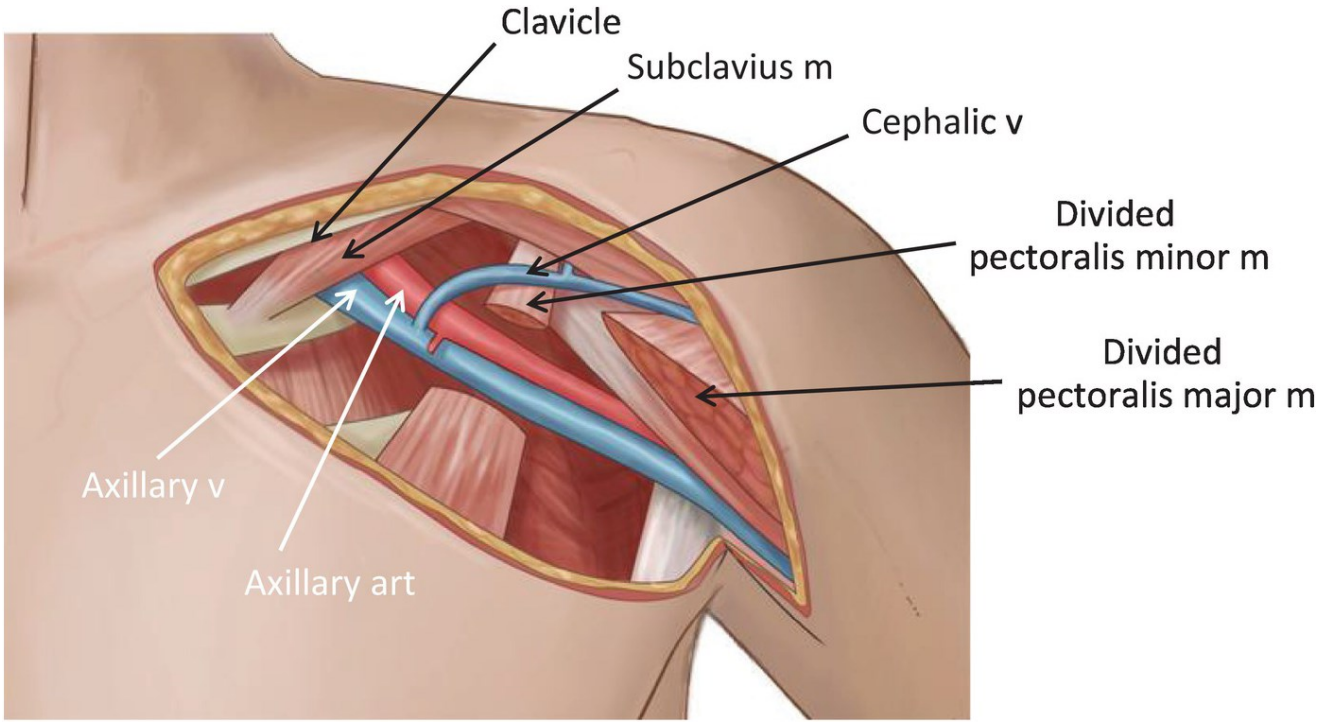
Procedure: TAVR Access Site



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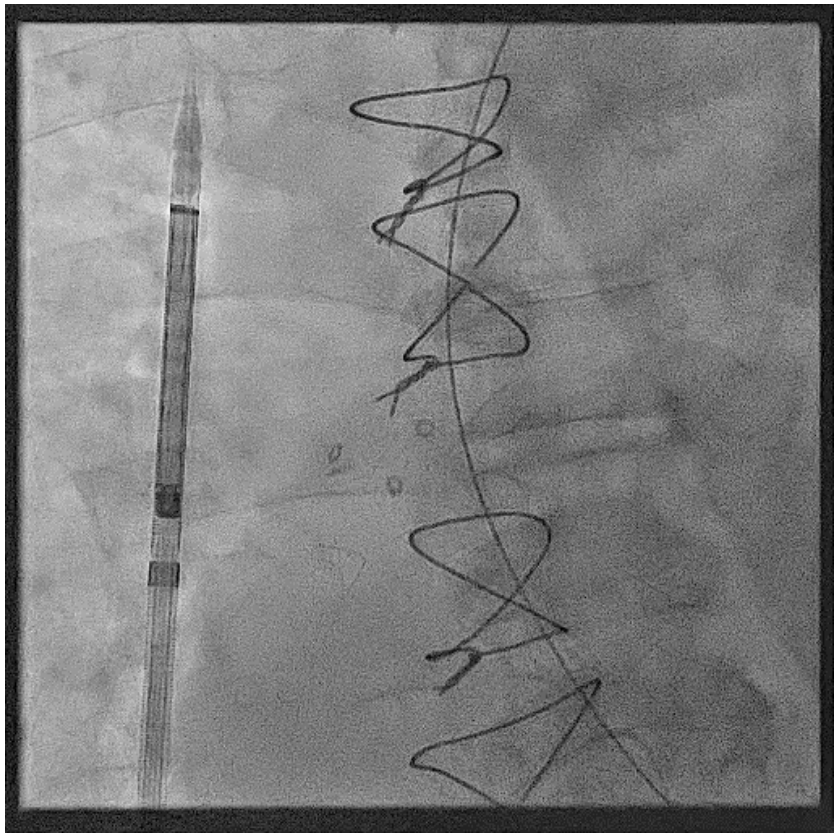
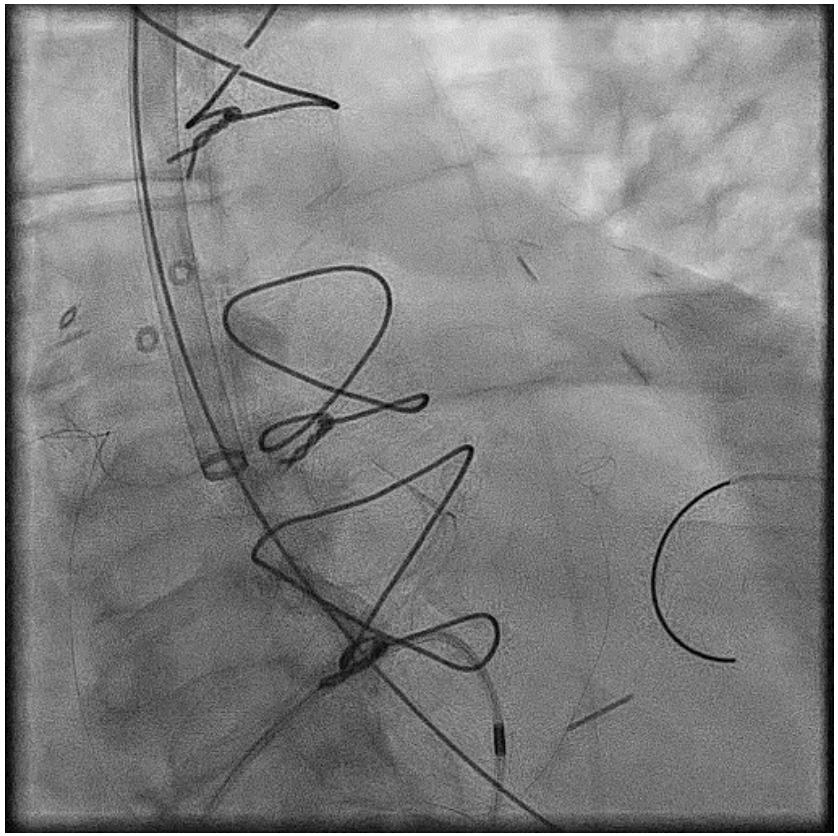
Procedure





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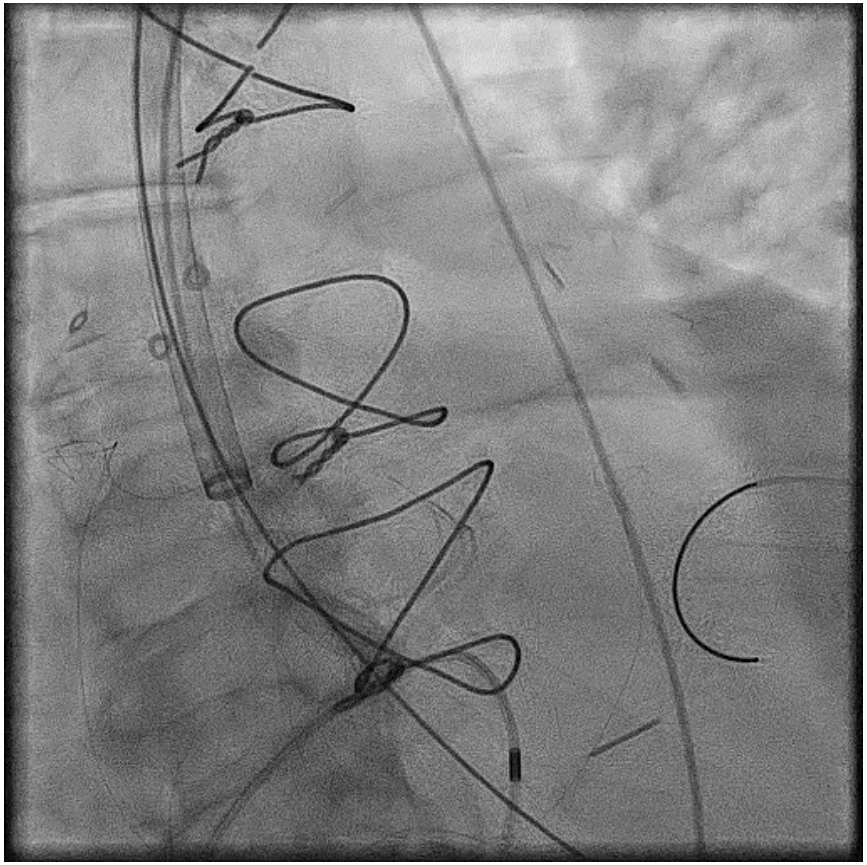
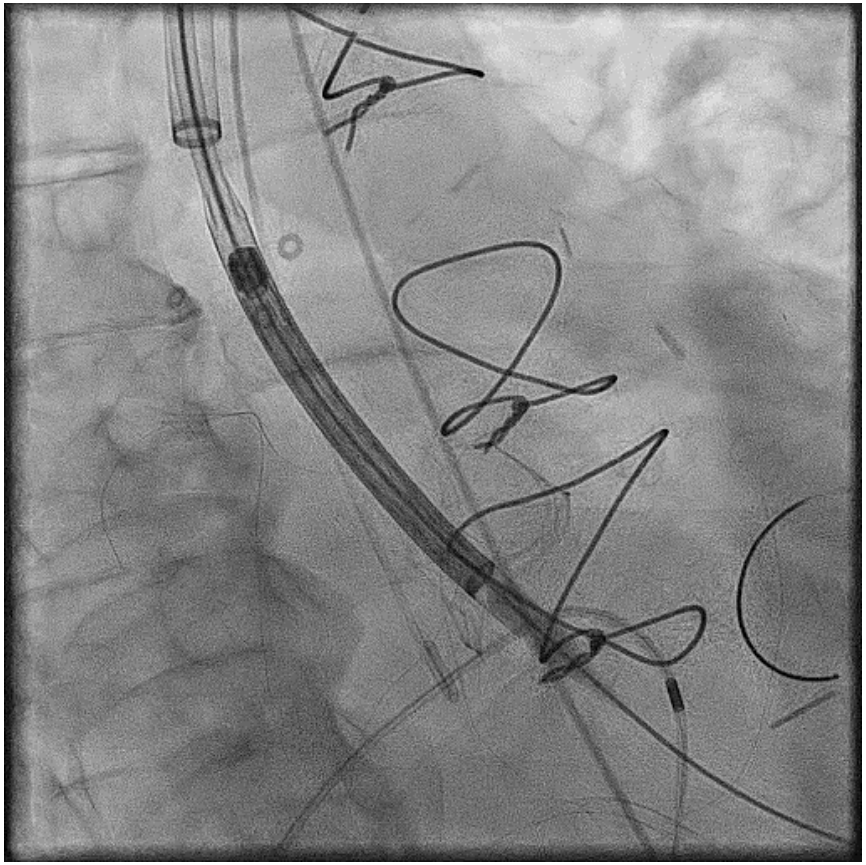
Procedure





Pre-implant LVEDP: 23 mmHg, dBP mid 20s

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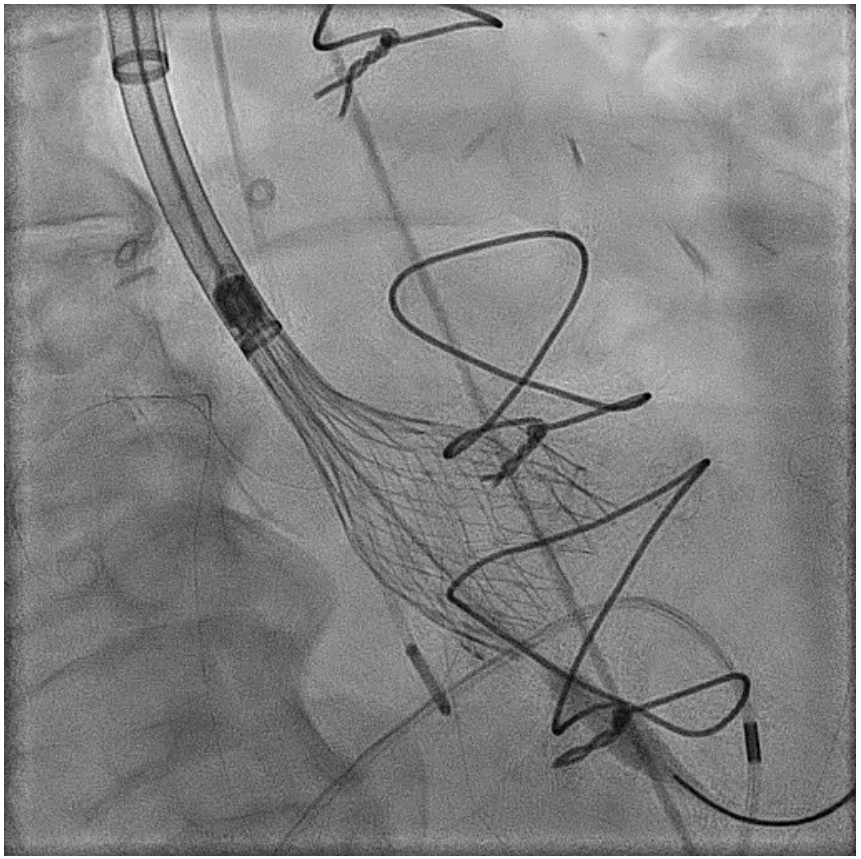
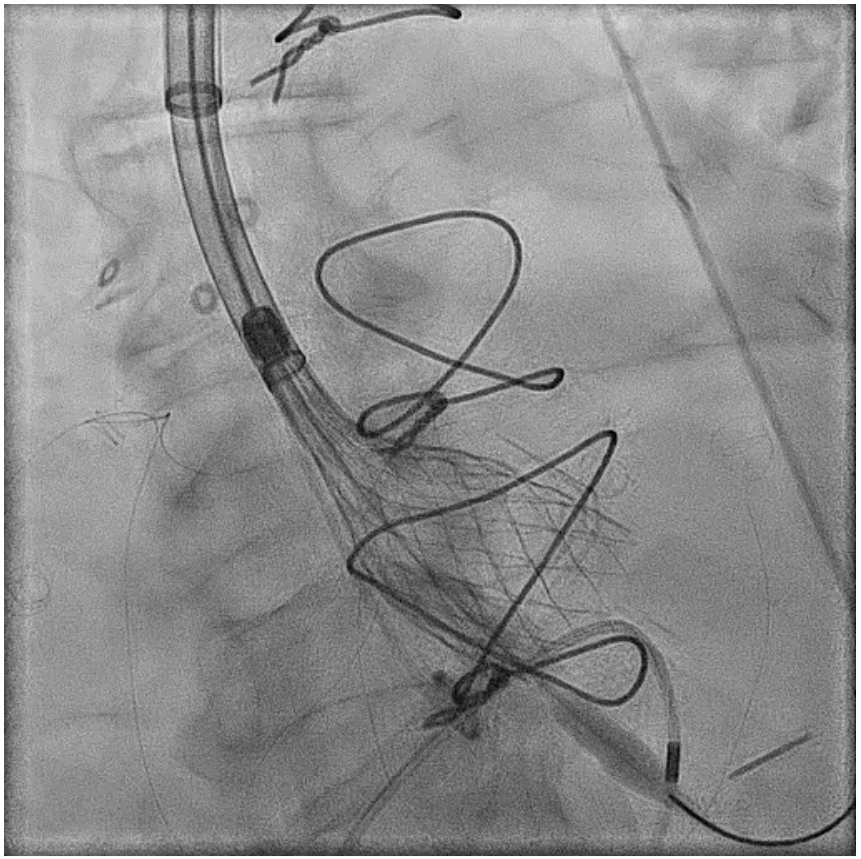
Procedure: Valve Deployment





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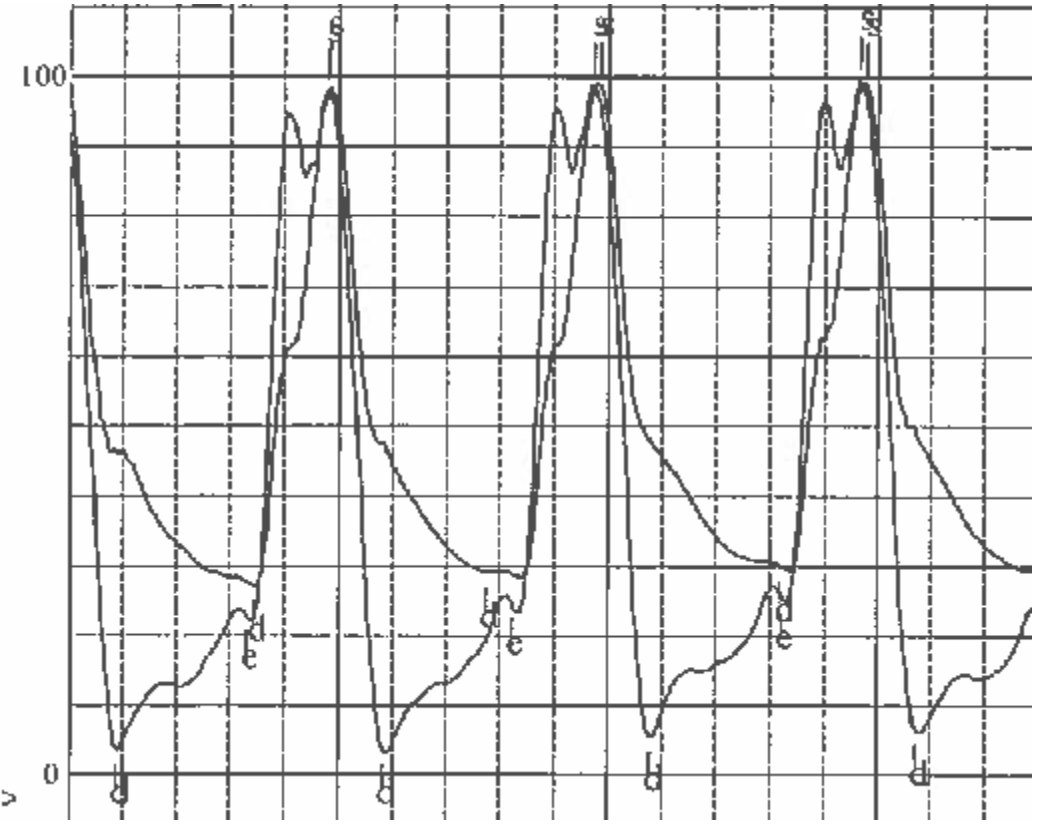
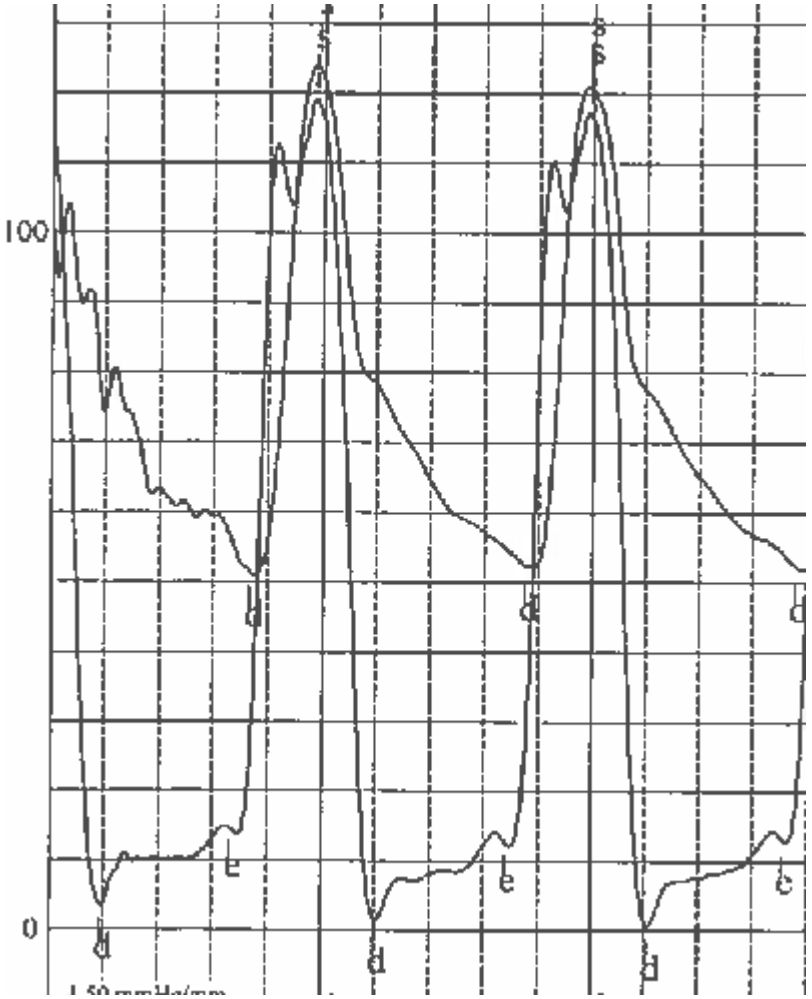
Hemodynamics peri Corevalve Deployment



Pre-deployment



Post-deployment

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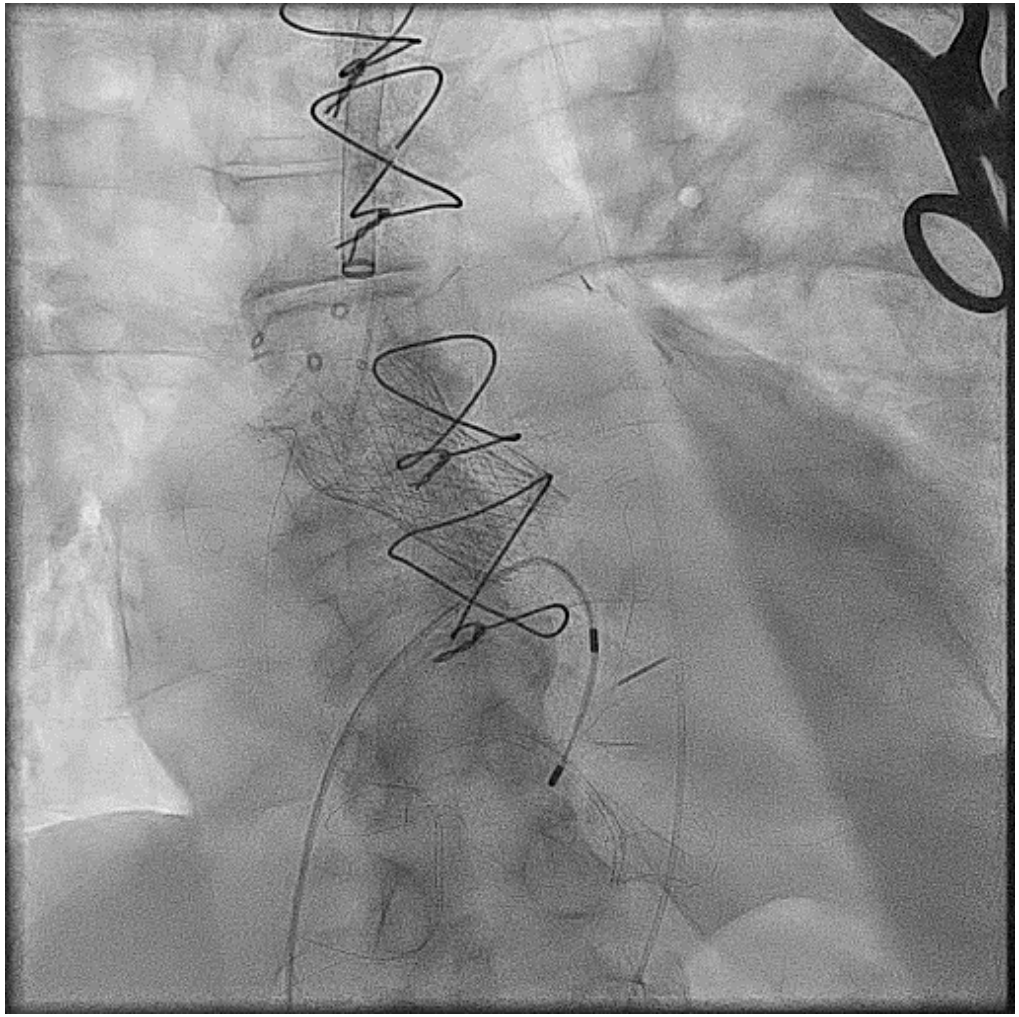
Procedure: Valve Successfully Deployed



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Post Operative Course

- No neurovascular complications
- The patient was weaned off inotropic support on POD #1
- Discharged POD #3

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Discussion: Emergent ViV TAVR

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- Our case demonstrates that TAVR is effective and feasible in patients with degenerative bioprosthetic valve failure who present with cardiogenic shock due to acute aortic regurgitation and with no other therapeutic options.
- Percutaneous axillary approach for TAVR is a viable option at experienced centers.
- Due to the acuity of the situation and need for a thoughtful urgent decision, a multidisciplinary team approach is critical for such patients.

Conclusion: Emergent ViV TAVR

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- Emergent ViV TAVR is an option for the management of patients with bioprosthetic valve failure at extreme surgical risk complicated by cardiogenic shock.
- In such cases, the heart team should be prepared to proceed to emergent implantation for timely and successful management of the patient.

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