

Severe aortic stenosis presenting as cardiogenic shock in a high-risk elderly patient

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Background

Severe aortic stenosis (AS) in cardiogenic shock represents a critical clinical scenario with limited time for intervention. TAVI has emerged as a potential life-saving option in high-risk patients.

Case Summary

Patient: 71-year-old woman

History: Hypertension, myocardial infarction (5 years ago)

Medications: Bisoprolol, Enalapril, Clopidogrel

NYHA: Class II

Clinical Presentation:

- Progressive dyspnea, orthopnea
- Lower limb edema
- **Vital signs:** BP 88/45 mmHg, HR 88, SpO₂ 88%
- **Neurologic:** Disoriented
- **Cardiac exam:** Grade III/VI systolic murmur
- **Respiratory:** Crackles, basal hypoventilation

Workup

- **Troponin I:** 1.5 ng/mL
- **NT-proBNP:** 29,800 pg/mL, Lac 2.8
- **SvO₂:** 54%
- **Coronary angiography:** No significant lesions

Multidisciplinary Decision

Heart Team opted for **urgent transfemoral TAVI** due to:

- Hemodynamic instability
- High surgical risk

Imaging & Access Planning

Vascular Access (CT-based):

- Right CFA: 7.5 mm
- Right CIA: 10.2 mm, minimal tortuosity
- No significant calcification

Procedure

- **Valve:** ACURATE neo2 S (self-expanding)
- **Access:** Right transfemoral
- **PVL:** Moderate, improved after post-dilatation (22 mm balloon)
- **Final gradient:** 8 mmHg | **Vmax:** 1.3 m/s
- No coronary compromise
- Stable valve position

Discussion

- **TAVI in shock:** Validates feasibility in unstable patients
- **Heart Team:** Timely coordination enabled successful outcome
- **Valve choice:** ACURATE neo2 suited for complex anatomy, rapid deployment

