Suicide Left Ventricle after TAVI

Yoon-Seok Koh

The Catholic University of Korea
College of Medicine, Division of Cardiology
Uiheongbu St. Mary’s Hospital Cardiovascular Center
Patient information

- 80/F

- Chief Complaint: NYHA III dyspnea

- Past history
  - Diabetes
  - Hypertension
Electrocardiography
The image shows a Transthoracic echocardiogram with the following measurements:

- **EF**: 50 %
- **AVA by 2D**: 0.46 cm²
- **AVA by CE**: 0.3 cm²
- **AV peak PG**: 84.7 mmHg
- **AV mean PG**: 55.2 mmHg
- **V max**: 5.9 m/s
- **RVSP**: 50 mmHg
Transesophageal echocardiogram

Logistic EuroSCORE : 28.89 %
STS score : 12.512 %

→ Decide to perform TAVI
Computed Tomogram and annulus size

Annulus Size
- By TEE: 19.7 mm
- By CT: 21.7 mm

Distance from aortic root to coronary orifice
- LM: 11.7 mm
- RCA: 12.9 mm

Valve size
: 23 mm Edward Sapien
Coronary angiogram
Femoral angiogram → TF approach
Transcatheter Aortic Valve Implantation
Pressure gradient

Before TAVI

After TAVI

Peak to peak PG : 115 mmHg → 20 mmHg
Aortagram and TEE after TAVI
8 Hours after TAVI

CPR for 10 min due to PEA

- Hydration
- Inotrophics: dopamin, norepinephrine
- IABP apply
- ECMO apply
- CRRT apply
Shock state after TAVI

Considerable situations

- Annulus or aortic rupture
- Coronary obstruction
- Cardiac tamponade
- Aortic dissection
- Deteriorate paravalvular leak
Aorta CT

No aortic dissection or rupture
Transthoracic echocardiogram

No cardiac tamponade or annulus rupture
Aortogram

No coronary obstruction
Transesophageal echocardiogram

No deteriorating paravalvular leak
What is the cause of cardiogenic shock?

Case Report

Suicide Left Ventricle Following Transcatheter Aortic Valve Implantation

William M. Suh, MD, Christian F. Witzke, MD, and Igor F. Palacios, MD
Left ventriculography in RAO

Catheter Cardiovasc Interv 2010;76:616-20
Our patient’s TTE
TTE finding after stopping IABP, dopamine and increasing hydration (1)

Before

After
TTE finding after stopping IABP, dopamine and increasing hydration (2)
The cause of cardiogenic shock:

maybe dynamic intraventricular gradient (suicide LV)
Predictive parameter of DIG

- Small ventricular diameter
- High transvalvular gradient
- Good overall contractility
- Discrete asymmetric hypertrophy
- Sigmoid shaped ventricular septum
- Tendency to small LVOT