

MAYO CLINIC

80 Year Old Man with Aortic Stenosis
Case Presentation

HAWAII HEART 2013

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Disclosures

Relevant Financial Relationship(s)
None

Off Label Usage
None

80 Year Old Man with Aortic Stenosis
Diagnosed Several Years Ago

- Normal coronary angio 6 years ago
- DOE and angina for 3-4 months
- LVEF 25% by current Echo

Baseline Hemodynamics
MG 36 mm Hg; AVA 0.8 cm²

LVOT TVI 16 cm

AV TVI 95 cm

Avg MG = 36 mmHg
Avg TVI = 95 cm

Dobutamine Stress Hemodynamics

Peak Dobutamine infusion
MG 56 mm Hg; AVA 0.9 cm²

LVOT TVI 19 cm

MG 56 mmHg
TVI 104 cm

Dobutamine Stress Hemodynamics 0 to 10 mcg/kg/min

	Baseline	Peak
LVOT TVI (cm)	15	19
SV (cc)	74	93
AV TVI (cm)	93	104
AVA (cm ²)	0.8	0.9
MG (mm Hg)	35	56

LVOT d = 2.5 cm



80 Year Old Man with Severe Low Output-Low Gradient Aortic Stenosis

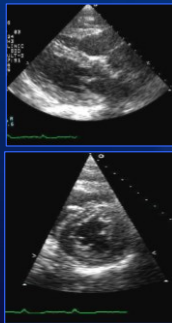
- Underwent aortic valve replacement
- 25 mm stented pericardial heterograft
- Started on ACE inhibitor and beta blocker



80 Year Old Man Status Post Aortic Valve Replacement

14 Month Follow-up

- NYHA class I
- LVEF 55%

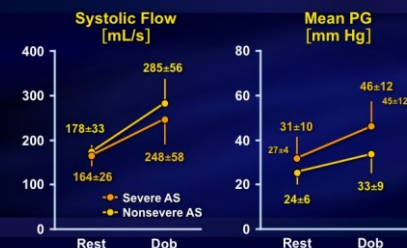


Dobutamine Stress Hemodynamics for Aortic Stenosis Endpoints

- Stroke volume (LVOT TVI) plateau
- MG \geq 50 mm Hg
- 20 mcg/kg/min



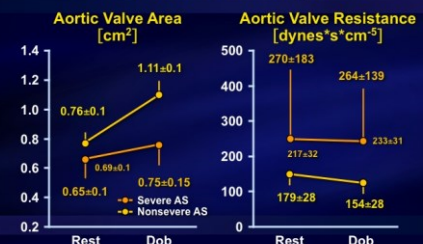
Aortic Stenosis and LV Dysfunction Dobutamine Stress Hemodynamics



Schwammenthal E: Chest 119(6), 6/01



Aortic Stenosis and LV Dysfunction Dobutamine Stress Hemodynamics



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Dobutamine Stress Hemodynamics

Relative Aortic Stenosis

- Valve area increase ≥ 0.3 cm²
- Valve area at peak infusion > 1 cm²



Low-Gradient Aortic Stenosis Operative Risk Stratification and Predictors for Long-Term Outcome: A Multicenter Study Using Dobutamine Stress Hemodynamics

Monin JL; Quere JP; Monchi M; Petit H;
Baleyraud S; Chauvel C; Pop C; Ohlmann P;
Lelguen C; Delant P; Tribouilloy C; Guere P

Circulation 108; July 22, 2003



LV Contractile Reserve with DSE

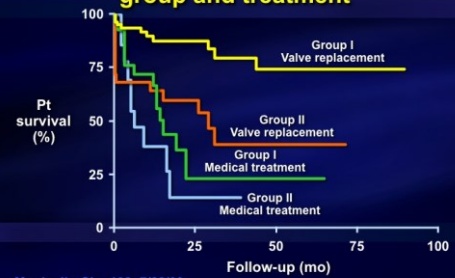
Stroke Volume Increase $\geq 20\%$

- Group I Contractile reserve
- Group II No contractile Reserve

Monin JL; Circulation 108; July 22, 2003



Kaplan-Meier survival estimates by group and treatment



Monin JL; Circ 108; 7/22/03



Mayo Clinic Locations

