

**19TH ANNUAL CANADIAN ECHO WEEKEND
APRIL 20-22, 2017
TORONTO, ON**

Session Title: Great Debates: Aortic Stenosis

**Low gradient severe AS with preserved LVEF: this is severe AS
and requires AVR in the vast majority of patients**

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OBJECTIVES: What questions or points will participants learn or discuss?

1. To demonstrate that the majority of patients with low-gradient AS (i.e. small valve area with low gradient) and preserved LV ejection fraction have severe aortic stenosis (AS).

2. To describe the different patterns of low gradient AS: i) classical (low LVEF) low-flow, low-gradient AS, ii) paradoxical (preserved LVEF) low-flow, low-gradient AS, and ii) normal-flow, low-gradient AS.

3. To demonstrate that aortic valve replacement improves outcomes in patients with low-gradient severe AS

DISCUSSION AND CONCLUSIONS: Please provide a summary of the discussion and/or include 3 to 6 key presentation slides.

- Paradoxical (normal LVEF), low-flow, low-gradient severe aortic stenosis (AS) is an important clinical entity that occurs in 7-15% of AS population. This is the “HFpEF” form of AS, whereas the classical (low LVEF), low-flow, low-gradient is the “HFrEF” form of AS.

- Aortic valve replacement (AVR) improves outcomes in patients with true paradoxical low-flow, low-gradient true severe AS.

- AVR does not improve outcomes in patients with measurement errors or pseudo-severe AS.

- Both the American and European guidelines recognize that paradoxical low-flow, low-gradient is an important entity which requires particular attention and include a Class IIa indication for AVR in these patients if the presence of severe stenosis is confirmed.

- Further studies are needed to assess the benefit of AVR in normal-flow, low-gradient AS, an entity that is not yet addressed in the guidelines.

- In a symptomatic patient with low-gradient AS, it is important:

1) To confirm the veracity of the echo measurements of valve area and gradient

2) To confirm the presence of true severe stenosis with additional imaging modalities (TEE assessment of the aortic valve morphology and mobility, low dose dobutamine stress echocardiography, and/or aortic valve calcium scoring by MDCT)

3) If goals #1 and #2 are fulfilled, to select the type, i.e. surgical vs. transcatheter, AVR.

Suggested references:

1. Clavel MA, Magne J and Pibarot P. Low-gradient aortic stenosis. *Eur Heart J*. 2016;37:2645-57.
2. Clavel MA, Burwash IG and Pibarot P. Cardiac imaging for assessing low-gradient severe aortic stenosis. *JACC Cardiovasc Imaging*. 2017;10:185-202.
3. Dayan V, Vignolo G, Magne J, Clavel MA, Mohty D and Pibarot P. Outcome and impact of aortic valve replacement in patients with preserved LV ejection fraction and low gradient aortic stenosis: a meta-analysis. *J Am Coll Cardiol*. 2015;66:2594-603.
4. Nishimura RA, Otto CM, Bonow RO, Carabello BA, Erwin JP, III, Guyton RA, O'Gara PT, Ruiz CE, Skubas NJ, Sorajja P, Sundt TM, III and Thomas JD. 2014 AHA/ACC guideline for the management of patients with valvular heart disease: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol*. 2014;63:e57-185.

See also slide selection.