

**Abstract number:** Lond18A-OP025

**Abstract type:** Oral Presentation

**Reference:** This abstract was presented at PCR London Valves 2018, 09-11 September 2018, London

**Link:** <https://abstractbook.pcronline.com/export/pdf/id/110025>

**Published on:** 31 August 2018

## **Fusion aortic valve area: is it a reliable imaging method in symptomatic patients with severe aortic stenosis?**

VAVURANAKIS Ma. (1), DRIS E. (1), KARIORI M. (1), KALOGERAS K. (1), SIASOS G. (1), KALANTZIS C. (1), BEI E. (1), KOLOKATHIS A. (1), MOLDOVAN C. M. (1), OIKONOMOU E. (1), TOUSOULIS D. (1)

(1) National and Kapodistrian University of Athens, Athens GREECE

**THEME:** Interventions for Valvular Disease

**TOPIC(S):** TAVI

### **AIMS**

Aortic valve area (AVA fusion) as assessed using CT estimated left ventricle outflow tract (LVOT) area is used in order to evaluate the severity of aortic stenosis in borderline patients with mild symptomatology. This is due to the inability of 2D echocardiography to accurately evaluate the oval shape and the calcified borders of LVOT area. Whether this has also any significant impact on severe symptomatic aortic stenosis or not is not clear.

### **METHODS AND RESULTS**

Seventy-three consecutive patients (81±6 years, 44 males (60.3%)) with symptomatic aortic stenosis were evaluated for the severity of aortic stenosis with ultrasound echocardiography and MSCT. Ultrasound echocardiography was used in order to assess LVOT in long-axis 2D view and VTI in aortic valve and in LVOT using color-Doppler. MSCT was used in order to evaluate LVOT area. Using the equation of continuity AVA as well as AVA fusion were evaluated as follows: Echo AVAi:  $(\frac{VTI_{LVOT}}{VTI_{AV}})^2 \times PW_{LVOT}$  / Echo VTI CW Aortic valve and Fusion AVAi:  $(\frac{CTA_{LVOT}}{CTA_{AV}})^2 \times PW_{LVOT}$  / Echo VTI CW Aortic valve. MSCT was also used in order to measure total calcium score (TCS). Patients were separated into two groups according to TCS values. (Group I: TCS<1600 for women and <3000 for men, Group II: TCS≥1600 for women and ≥3000 for men). Mean values of Fusion AVAi (0.65±0.27 cm<sup>2</sup>/ m<sup>2</sup> vs 0.35±0.08 cm<sup>2</sup>/ m<sup>2</sup>, p=0.001) differed significantly when compared with mean values of Echo AVAi. Finally, CTA LVOTarea and US LVOTarea differed significantly both in Group I (5.52±1.32 cm<sup>2</sup> vs 3.13±0.77 cm<sup>2</sup>, p<0.001) and in Group II (5.41±1.64 cm<sup>2</sup> vs 2.88±0.63 cm<sup>2</sup>, p<0.001).

### **CONCLUSIONS**

In conclusion, MSCT needs to be performed for the proper evaluation of LVOT area and consequently of AVAi in symptomatic aortic stenosis patients.