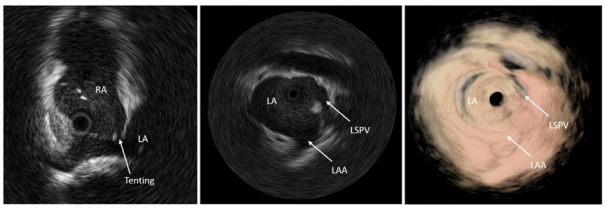
RESULTS Pre-clinical and clinical images of the IVC, SVC, all four cardiac chambers, valves, fossa ovalis, pulmonary veins, left atrial appendage (LAA), atrial septum, coronary sinus and devices have been collected. The left figure panel is a 2D cross-sectional clinical image of the left atrium (LA), right atrium (RA) and septal tenting. The middle panel is one of several 2D images used to generate a 3D image (Figure 1C) of left-sided structures within one second, including the left atrial appendage (LAA) and left superior pulmonary vein (LSPV).



CONCLUSION Imaging with this new rotational ICE platform is feasible and may create new options for guidance of minimally invasive procedures.

CATEGORIES **IMAGING:** Imaging: Intravascular

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TCT-105

Clinical Valve Thrombosis after Transcatheter Aortic Valve-in-Valve Implantation for Degenerated Bioprosthetic Valves: Incidence, Characteristics and Outcomes

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BACKGROUND Limited data exists on clinical valve thrombosis after transcatheter aortic valve-in-valve (ViV) implantation. Our objective was to determine the incidence, timing, clinical characteristics and treatment outcomes of patients diagnosed with clinical ViV thrombosis.

METHODS This is a prospectively collected data from a multicenter database. Centers participating in the Valve-in-Valve International Data (VIVID) Registry were surveyed for thrombosis cases. The following criteria were used to define clinical valve thrombosis: 1) new valve dysfunction (mean gradient > 20 mmHg or increase in mean gradient by >50% from baseline or more than mild transvalvular AR) responding to anticoagulant therapy with complete or partial resolution of the abnormality; and 2) imaging evidence (echo, CT or both) of prosthetic valve thrombosis in the absence of clinical signs of infection. Definite valve thrombosis was diagnosed if both criteria were met, while probable valve thrombosis was diagnosed if only one criterion was identified.

RESULTS During the study period, 302 ViV TAVIs were performed. Incidence of clinical valve thrombosis was 7.6% (n=23; 12 definite and 11 probable). The median time to detection was 101 days (IQR 21-226). In 7 (30%) patients, THV thrombosis was diagnosed within 30 days after ViV. 15 (65%) patients had worsening symptoms at the time of diagnosis. Mean gradients were elevated in 21 (91%) patients. The mean gradient and the mean aortic valve area at diagnosis were 35 ± 14 mmHg and 0.9 ± 0.3 cm2. Other findings included thrombotic leaflet mass (n=7), leaflet thickening (n=6) and reduced mobility (n = 6). Mean aortic gradient decreased during treatment with anticoagulants (16±6 mmHg at follow-up echo, p<0.001). There were no deaths or strokes related to valve thrombosis. Of the 23 detected cases of valve thrombosis, 13 had balloon-expandable and 10 had self-expanding valves. Valve thrombosis was more common in patients discharged on antiplatelet therapy (11.1% on antiplatelet therapy vs. 1% on oral anticoagulants, p=0.001) and in patients initially treated with either Mosaic or Hancock II bioprostheses (12.9% Mosaic/Hancock II vs. 5.1% all others, p=0.01). The incidence of thrombosis in patients treated with ViV for degenerated Mosaic/Hancock II valves discharged on antiplatelets was 20.7%.

CONCLUSION Clinical valve thrombosis after transcatheter ViV implantation for degenerated bioprosthetic aortic valves is common and characterized by imaging abnormalities and increased gradients, and can be effectively treated with oral anticoagulation. It should be ruled-out in patients with elevated post-procedural gradients after ViV TAVI. The high incidence observed after treatment of specific surgical valve types may warrant specific adjustment of the adjunctive antithrombotic therapy.

CATEGORIES **STRUCTURAL:** Valvular Disease: Aortic

TCT-106

Atrial Fibrillation is Associated with Increased Mortality in Intermediate-Risk Patients Undergoing TAVR or SAVR: Insights From the PARTNER 2A and PARTNER 2 S3i Trials

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BACKGROUND Atrial fibrillation or flutter (AF) has been associated with worse outcomes in many cardiovascular disease states, but there are scant data in STS-defined intermediate-risk aortic stenosis (AS) patients undergoing transcatheter or surgical aortic valve replacement (TAVR/SAVR).

METHODS Data were evaluated in 2699 intermediate-risk patients who underwent TAVR or SAVR in either the PARTNER (Placement of AoRTic TraNscathetER Valve) 2A or S3i Trials. Clinical outcomes at 1-year and 2-years were compared in patients by baseline and discharge rhythm: sinus rhythm (SR) versus AF.

RESULTS For the 1905 TAVR patients, 3.3% manifested SR baseline/AF discharge, 17.6% AF baseline/AF discharge, and 79.1% SR baseline/SR discharge. The 794 SAVR patients developed more AF by discharge: 14.2% SR/AF, 14.1% AF/AF, and 71.7% SR/SR. Total mortality at 1-year was increased in AF patients for both groups: TAVR= 15.9% SR/AF vs 7.6% SR/SR, p=0.02; SAVR= 16.0% SR/AF vs. 8.9% SR/SR, p=0.02.