Abstract: **P646**

**Quantitative assessment of tricuspid regurgitation using right and left ventricular stroke volumes obtained from equilibrium radionuclide ventriculography**

**Authors:**
D Eyharts¹, Y Lavie-Badie¹, S Cazalbou¹, S Brun¹, P Fournier¹, E Cariou¹, F Campelo-Parada¹, M Galinier¹, I Berry², D Carrie¹, O Lairez³, ¹Toulouse Rangueil University Hospital (CHU), Department of Cardiology - Toulouse - France, ²Toulouse Rangueil University Hospital (CHU), Department of Nuclear Medicine - Toulouse - France, ³University Paul Sabatier, University of Rangueil - Toulouse - France,

**Topic(s):**
Computed Tomography: Valve Disease

**Citation:**
European Heart Journal - Cardiovascular Imaging (2019) 20 (Supplement 1), i376

**BACKGROUND:** Quantitative assessment of valve regurgitation using volumetric method by comparing right and left ventricular stroke volumes is still under investigations.

**PURPOSE:** To investigate the accuracy of equilibrium radionuclide ventriculography (ERV) for the quantification of tricuspid regurgitation (TR) severity.

**METHODS:** Thirty-three patients (25 men; mean age 63±10 years) who underwent both ERV and transthoracic echocardiography (TTE) studies within 2 weeks for right ventricular systolic function assessment were eligible for inclusion. Patients with significant mitral regurgitation by TTE were excluded of the study. Among these patients, 10 (30%) patients underwent cardiac magnetic resonance imaging (CMR) during the same period. TR was calculated using the proximal isovelocity surface area (PISA) method from TTE and the volumetric method (right ventricular stroke volume minus left ventricular stroke volume) from ERV, and then CMR for comparison.

**RESULTS:** TR tended to be higher using the ERV volumetric method as compared to PISA method (48±36 vs 43±31 ml, respectively; P=0.06). There was a significant correlation between TR as assess by ERV and by TTE (R=0.8, P<0.001; Figure). The correlation with TR as assess by TTE was slightly lower with CMR (R=0.750 P=0.028). Intraclass correlation coefficient between TTE and ERV for TR quantification was 0.9 (P<0.001).

**CONCLUSION:** TR assessment using the ERV correlates well with PISA from TTE in patients referred for right ventricular systolic function assessment. Correlation level is at least equivalent to CMR.
Abstract:

Quantitative assessment of tricuspid regurgitation using right and left ventricular stroke volumes obtained from equilibrium radionuclide ventriculography.

Authors:
D Eyharts1, Y Lavie-Badie1, S Cazalbou1, S Brun1, P Fournier1, E Cariou1, F Campelo-Parada1, M Galinier1, I Berry2, D Carrie1, O Lairez3

1 Toulouse Rangueil University Hospital (CHU), Department of Cardiology - Toulouse - France, 2 Toulouse Rangueil University Hospital (CHU), Department of Nuclear Medicine - Toulouse - France, 3 University Paul Sabatier, University of Rangueil - Toulouse - France

Topic(s): Computed Tomography: Valve Disease

Citation: European Heart Journal - Cardiovascular Imaging (2019) 20 (Supplement 1), i376

BACKGROUND: Quantitative assessment of valve regurgitation using volumetric method by comparing right and left ventricular stroke volumes is still under investigations.

PURPOSE: To investigate the accuracy of equilibrium radionuclide ventriculography (ERV) for the quantification of tricuspid regurgitation (TR) severity.

METHODS: Thirty-three patients (25 men; mean age 63±10 years) who underwent both ERV and transthoracic echocardiography (TTE) studies within 2 weeks for right ventricular systolic function assessment were eligible for inclusion. Patients with significant mitral regurgitation by TTE were excluded of the study. Among these patients, 10 (30%) patients underwent cardiac magnetic resonance imaging (CMR) during the same period. TR was calculated using the proximal isovelocity surface area (PISA) method from TTE and the volumetric method (right ventricular stroke volume minus left ventricular stroke stroke volume) from ERV, and then CMR for comparison.

RESULTS: TR tended to be higher using the ERV volumetric method as compared to PISA method (48±36 vs 43±31 ml, respectively; P=0.06). There was a significant correlation between TR as assess by ERV and by TTE (R=0.8, P<0.001; Figure). The correlation with TR as assess by TTE was slightly lower with CMR (R=0.750 P=0.028). Intraclass correlation coefficient between TTE and ERV for TR quantification was 0.9 (P<0.001).

CONCLUSION: TR assessment using the ERV correlates well with PISA from TTE in patients referred for right ventricular systolic function assessment. Correlation level is at least equivalent to CMR.