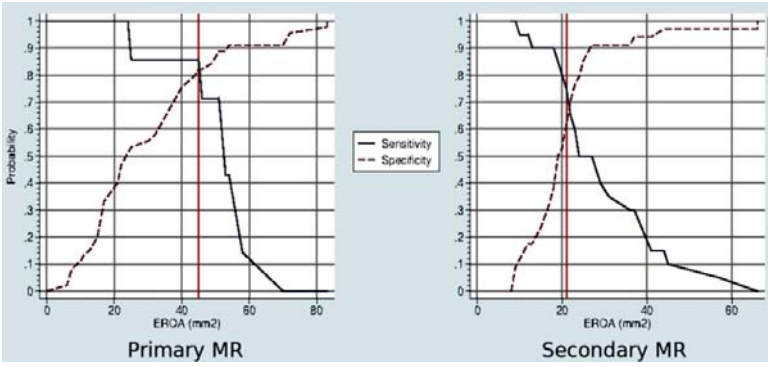
5942

Clinical outcomes and prognostic implications of effective regurgitant orifice area. Defining severe mitral regurgitation

J.M. Monteagudo Ruiz, A. Gonzalez Gomez, R. Hinojar Baydes, E. Casas Rojo, A. Garcia Martin, J.L. Moya Mur, I. Aquila, J.J. Jimenez Nacher, V. Barrios, S. Ruiz Leira, A. Marco Del Castillo, A. Pardo Sanz, J.L. Zamorano Gomez, C. Fernandez Golfin

University Hospital Ramon y Cajal de Madrid, Cardiology department, Madrid, Spain

Background: Previous studies showed that the effective regurgitant orifice area (EROA) is a strong predictor of clinical outcomes. However, there is controversy over the optimal threshold that identifies patients at high-risk, especially in secondary mitral regurgitation (MR).
Purpose: To determine the optimal EROA threshold that identifies a subgroup patients with an increased risk of cardiac death and hospitalization for heart failure (HF), in both, primary and secondary MR.
Methods: A total of 6022 consecutive transthoracic echocardiograpic studies were analysed. Patients with significant MR were prospectively included. The EROA was calculated by the PISA method. Each patient was followed up for three years. Cox regression was performed to study predictors of the combined end-point. ROC curve analysis was performed to determine the optimal cut-off values of EROA.
Results: Significant primary MR was found in 115 patients (62%), whereas significant secondary MR was described in 71 studies (38%). In primary MR, the optimal threshold of EROA for predicting the combined end-point was 45mm^2 (Sn=85.7%; Sp=82.2%). After adjusting for NYHA class, ejection fraction and chronic kidney disease, an EROA $\geq$45mm^2 was strongly associated with cardiac death and admissions due to HF (HR 15.65, 95% CI 4.34–56.47, p$<$0.001). Regarding secondary MR, the optimal cut-off value was 21mm^2 (Sn=75.0%; Sp=61.8%) and the adjusted HR was 2.57 (95% CI 1.03–6.37, p=0.042).
Conclusions: Our study demonstrates that an EROA of at least 45mm^2 in primary MR or of at least 21mm^2 in secondary MR is independently associated with a significantly increased risk of cardiac death and hospitalization for HF.



Sensitivity and specificity curves