Abstract: 5937

Natural history of functional tricuspid regurgitation: implications of quantitative doppler assessment

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Topic(s):
Valvular Heart Disease – Diagnostic Methods

Citation:
European Heart Journal (2019) 40 (Supplement), 3628

Objectives: To establish the prognostic value of quantitative measures of functional tricuspid regurgitation (TR) severity i.e. effective regurgitant orifice area (EROA) and regurgitant volume.

Methods: 382 patients with HFrEF on guideline-directed medical therapy were enrolled and TR EROA as well as regurgitant volume by Doppler/2D-echocardiography were assessed. All-cause mortality was defined as the primary study endpoint.

Results: Quantitative metrics of TR severity were consistently associated with mortality with a HR of 1.27 (95% CI 1.13–1.42, P<0.001) for the EROA and of 1.29 (95% CI 1.14–1.45, P<0.001) for the regurgitant volume (Figure 1, Panels A and B). Results remained unchanged after bootstrap- or clinical confounder-based adjustment. A spline curve pattern illustrates the association with mortality with thresholds for the EROA≥0.2cm², and the regurgitant volume≥20ml with sustained excess mortality thereafter (Figure 1 Panels C-D).

Conclusions: This large-scale study demonstrates the prognostic value of quantitative measures of TR severity in HFrEF. Thresholds for EROA and TR regurgitant volume associated with mortality fall within current ranges defining non-severe TR. This may potentially impact therapeutic decision making particularly timing of intervention.

Figure 1. Panels A–D
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