PROGNOSTIC IMPLICATION OF THE MITRAL VALVE TENTING GEOMETRY IN PATIENTS WITH DILATED CARDIOMYOPATHY: TRANSTHORACIC REAL-TIME 3D ECHOCARDIOGRAPHIC STUDY

Poster Contributions
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Background: Functional mitral regurgitation is a clinically important complication in LV dysfunction. We sought to evaluate whether 3D mitral valve (MV) tenting morphology by real-time 3D echocardiography (RT3DE) can predict long-term prognosis in dilated cardiomyopathy (DCM).

Methods: 44 DCM were examined by transthoracic RT3DE. 3D MV tenting morphology was reconstructed for the 3D quantitative analysis of the annulus, leaflet tenting and papillary position. We mapped maximum tenting site (TS) of the leaflet on the 3D images to observe the 3D tenting characteristics. We examined whether MV geometric parameters related to the long-term outcome.

Results: Follow-up(45±35month) information was collected in 40 patients. Cardiovascular events occurred in 22(55%), and there were 11 deaths(28%). Patients were divided into Event (n=22) and No-Event (n=18) groups. 3DEF, ESV, EDV were larger in Event group than No-Event group(P<0.001). Max TS were positioned mostly in the central region of the leaflet area(maxTS-cent) in No-Event group(94%). In contrast, max TS were mostly found in mid-posterior(maxTS-post) in Event group(77%), P<0.001. In maxTS-post, posterior leaflet angle were larger than maxTS-cent(P<0.001). Inter-papillary distance and angle were larger in maxTS-post than maxTS-cent(P=0.002).

Conclusions: Tenting pattern by RT3DE can predict long-term prognosis in DCM. DCM with max TS in the posterior region had worse prognosis than those with max TS in the central region.