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# Pericardial/Myocardial Disease

## PERICARDIAL DELAYED ENHANCEMENT BY CARDIAC MR IN CONSTRICTIVE PERICARDITIS IS ASSOCIATED WITH LOWER REGIONAL LONGITUDINAL STRAIN

ACC Moderated Poster Contributions
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**Background:** We sought to assess the relationship of delayed pericardial enhancement by using cardiac MR delayed enhancement (DE) imaging and peri-myocardial tethering with 2D speckle tracking as the severity of peri-myocardial tethering influences myocardial function in constrictive pericarditis (CP) patients.

**Methods: Methods:** We performed echocardiography in 22 patients (age 61±14) with CP. All LV and RV free wall segments in CP patient were categorized as DE (+) or DE (-) based on the findings of DE imaging. Regional LV and RV free wall longitudinal strain (LS) by 4 chamber view was used to assess severity of peri-myocardial tethering. Pericardial

thickness measurements were made using turbo spin echo pulse sequences.

**Results:** Forty-two segments were categorized into the DE (+) segment. Ninety segments were categorized into the DE (-) segment. The DE (+) segments had significantly lower LV free wall LS than the DE (-) segments (-9.4±6.0% vs. -15.4±5.7%; P < 0.001) and there was lower RV free wall LS in the DE (+) segments than in the DE (-) segments (-9.9±6.5% vs. -14.0±4.6%; P = 0.002). When these groups were further subdivided into a pericardial thickness (>4mm) group and negative thickness group (<4mm), those with DE (+) and thickness (+) showed the lowest strain (figure).

**Conclusions:** Pericardial delayed enhancement by cardiac MR in CP is associated with lower LV and RV free wall LS which likely reflects increased severity of peri-myocardial tethering in the context of an inflamed pericardium.