# Prognostic role of cardiac MRI in the evaluation of patients with pericarditis: a long-term follow-up study

Conte E.; Lauri G.; Agalbato C.; Dalla Cia A.; Mushtaq S.; Mapelli M.; Teruzzi G.; Biondi ML.; Pontone G.; Pepi M.; Andreini D.

Centro Cardiologico Monzino, IRCCS, Milan, Italy

**Funding Acknowledgements:** Type of funding sources: None.

**Introduction:** Recurrent pericarditis complicates 30% of acute pericarditis cases. Aim of the present study is to evaluate the role of cardiac MRI in the identification of patients subgroup at higher risk of recurrent pericarditis.

Material and methods

From a registry of consecutive patients who underwent cardiac MRI from January 2014 to January 2019 we retrospectively selected a subgroup of patients with clinical diagnosis of pericarditis according ESC guidelines on pericardial disease, for which a recent (less the 2 months before cardiac MRI) transthoracic echocardiography was available. CMR protocol included bSSFP images, T2w images and LGE in all patients. Transthoracic echocardiography was considered to be positive for pericardial disease if pericardial effusion and/or sign of pericardial constriction were present; cardiac MRI was considered to be positive for pericardial disease if pericardial effusion and pericardial hyperintensity signal were detected on T2w or LGE images. Clinical follow-up was recorded for a composite end-point including new episodes of recurrent pericarditis and subsequent diagnosis of chronic constrictive pericarditis

**Results:** A total of 25 patients were included in this preliminary analysis of the study. Pericarditis etiology was unknow (idiopathic) in 17 (68%), related to systemic autoimmune disease in 5 patients (20%) and related to cancer in 3 patients (12%). In 6 patients (24%) a myopericarditis was diagnosed. According to predefined criteria 10 patients had echocardiography positive for pericardial disease (40%), while in 9 patients cardiac MRI was positive for pericardial inflammation (36%). Both echocardiography and cardiac MRI were positive in 5 patients (20%). At a mean follow-up of 35.4 ± 12.2 months a total of 9 recurrent pericarditis events were recorded. At multivariate analysis MRI positive for pericardial inflammation [HR (95%CI) 15.9 (2.7-95.5)] but not echocardiography positive for pericardial disease [HR (95%CI) 0.33 (0.1-1.5)] resulted to be associated to recurrent pericarditis at follow-up.

**Conclusion:** Cardiac MRI positive for pericardial inflammation could identify patients that may merit more aggressive anti-inflammatory therapy to prevent recurrent pericarditis.