

C45 LATE CARDIAC OUTCOMES IN PATIENTS AFTER COVID-19: A CARDIAC MAGNETIC RESONANCE STUDY

F. Leonardo, F. Figini, L. Pederzoli, G. Geremia, P. Landi, A. Pingitore
OSPEDALE PEDERZOLI, PESCHIERA; OSPEDALE PESCHIERA, PESCHIERA; ISTITUTO DI
FISIOLOGIA CLINICA, CNR, PISA

Background: Myocardial injury can occur in patients with coronavirus disease (COVID)-19. Cardiac magnetic resonance (CMR) provides information on functional and morphological cardiac parameters, as well myocardial tissue characterization. Actually, there are few data on late cardiac outcomes in patients after COVID-19.

Aim of the Study: To assess late functional, morphological and myocardial tissue parameters in patients positive to COVID-19. **Methods:** 55 patients (age 50 ± 16 yrs, Female $n = 17$) with a prior diagnosis of COVID 19, without a previous history of cardiac disease were enrolled in the study. Of these, 35 were hospitalized. The time interval between COVID-19 diagnosis and CMR was 418 ± 28 days. Cardiac function and myocardial tissue characterization have been evaluated with the current CMR techniques. In particular, the presence of late gadolinium enhancement (LGE), as a sign of myocarditis outcome has been evaluated.

Results: LGE was present in 19 patients (34.5%). In all cases, LGE was localized at the level of lateral wall of left ventricle within the myocardium or at the subepicardial level (non-ischemic pattern). Left and right ventricular (LV, RV) ejection fraction were within normal values (mean \pm SD $65 \pm 5\%$ and $65 \pm 7\%$, respectively), as well as volumes (LV enddiastolic and endsystolic volumes 71 ± 15 and 27 ± 8 ml/m²; RV enddiastolic and endsystolic volumes 72 ± 15 and 25 ± 9 ml/m²). In one case, LGE was associated to regional wall hypokinesia. Among the hospitalized patients, the following factors were associated to the presence of LGE: prone position during assisted ventilation, duration of hospitalization. LGE was present in 67% of patients put in prone position, against 33% of patients not pronated ($p = 0.009$ Fisher's exact test). Duration of hospitalization was 9 ± 5 and 16 ± 7 respectively in patients without and with LGE ($p = 0.007$)

Conclusion: LGE, as an outcome of myocarditis, is present in a significant number of patients with a history of COVID-19, but it is not associated with dilatation or global and regional dysfunction of left ventricle. LGE is mainly present in pts with more severe clinical presentation of COVID-19