

783 The effects of reduced physical activity on the lipid profile in patients with high cardiovascular risk during COVID-19 lockdown

Marco Alfonso Perrone¹, Elvira Padua², Massimo Pieri¹, Carmelo Russo¹,
Ferdinando Iellamo¹, and Attilio Parisi³

¹University of Rome Tor Vergata, Italy, ²Online University of Rome S. Raffaele, Italy,
and ³University of Rome Foro Italico, Italy

Aims: The COVID-19 pandemic is a serious global health problem. In Italy, to limit the infections, the government ordered lockdown from March 2020. This measure, designed to contain the virus, led to serious limitations on the daily life of the individuals it affected, and in particular in the limitation of physical exercise. The aim of this study was to evaluate the effects of reduced physical activity on the lipid profile in patients with high cardiovascular risk.

Methods and results: We enrolled 38 dyslipidaemic patients, 56% male, with an age range of 44-62 years, considered to be at high cardiovascular risk. All patients were prescribed statin drug therapy (atorvastatin 40 mg) and a vigorous physical activity program four times a week, 1 h per session. In addition, a personalized Mediterranean diet was prescribed to all the patients. Total cholesterol, LDL, HDL, and triglycerides were measured in patients at T0 before lockdown and at T1 during lockdown. Data showed a significant increase ($P < 0.01$) in total cholesterol (+6.8%) and LDL (+15.8%). Furthermore, the analysis of the data revealed a reduction in HDL (-3%) and an increase in triglycerides (+3.2%), although both were not significant ($P > 0.05$). Of the 14 patients who were all in perfect therapeutic range at T0, only 4 (28%) had LDL <70 mg/dL at T1.

Conclusions: Our study showed that the reduction in physical activity during lockdown led to an increase in LDL levels, and therefore, in the risk of ischaemic heart disease in dyslipidaemic patients with high cardiovascular risk.