

## DEPRESSION AND CORONARY ARTERY DISEASE

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### Dear editor,

In their prospective study, Rosic et al. (2020) evaluated anxiety, depression, and quality of life in 170 patients that underwent ambulatory cardiac rehabilitation (ACR) after major cardiac events, elective revascularization, valve replacement, or cardiac implantable electronic devices. They reported that after a median ACR duration of 12 weeks, it was noted decrease of both anxiety and depression, and improvement of most components of quality of life. The duration of ACR was correlated with the degree of anxiety and depression improvement. The authors concluded that a 3-month ACR after major cardiac events resulted in significant improvement of depression, anxiety and quality of life in most patients.

In our previous study (Fotopoulos et al. 2020), we described overall relative findings with the study by Rosic et al. (2020). Specifically, we investigated the existence of depression and anxiety in 80 patients (59 men and 21 women) who were subjected to myocardial perfusion imaging single photon emission tomography (MPI SPECT), either for minor cardiac complaints, or for follow up of known myocardial and coronary artery disease (CAD) (Fotopoulos et al. 2020, Gianopoulos et al. 2017). MPI SPECT consists of an accurate non-invasive imaging method for evaluation of the myocardial status in patients with various diseases (Kotsalou et al. 2007). Cardiac risk factors (obesity, smoking, arterial hypertension, diabetes mellitus, dyslipidemia, and cardiac heredity) were also studied (Fotopoulos et al. 2020). MPI was performed in all patients with 1 day stress/rest protocol according to guidelines and evaluated visually using a 17-segment polar map as previously reported (Gianopoulos et al. 2017). We found that both anxiety and depression were possible contributing risk factors for myocardial dysfunction. Additionally, when obesity or cardiac heredity coexisted with depression, the risk for CAD and myocardial dysfunction was higher in both sexes (Fotopoulos et al. 2020).

Other investigators have also found that depression and anxiety frequently occur in patients with CAD and significantly affect their health-related quality of life. In addition, previous studies reported that the depression and anxiety were worse in women compared to men (Lu et al. 2019). Furthermore, genetic predisposition to major depression may increase the risk for CAD and myocardial infarction (Lu et al. 2021). It has been suggested that patients with CAD and depression demonstrated increased response to stress in parietal cortex and decreased in anterior cingulate/medial prefrontal cortex in comparison to patients with CAD without depression (Bremner et al. 2019). In any event, ACR as it is reported in the current study by Rosic et al. (2020), may not only effectively reduce depression, anxiety and improve the quality of life, but it also may decrease the severity of myocardial dysfunction.

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