Aterotrombosi e Tromboembolismo arterioso: aspetti clinici

CROSS-TALK BETWEEN HEART AND BRAIN IN ATRIAL FIBRILLATION: ASSOCIATIONS BETWEEN CARDIAC REMODELING AND CEREBROVASCULAR LESION BURDEN IN THE STRAT-AF STUDY

F. Alfano[1|2], C. Barbato[3], M. Berteotti[1|2], L. Cosco[1|2], A. Sammartino[1|2], G. Guidotti[1|2], V. Liberati[1|2], G. Iula[1|2], M. Papi[1|2], A. Fidanzati[1|2], B. Formelli[3], E. Barucci[3], G. Salti[3], F. Fratini[3], T. Lo Castro[3], C. Parenti[4], E. Fainardi[2|5], A. Di Carlo[4], E. Salvadori[1], A. Poggesi[1|3], R. Marcucci[1|2]

[1]Department of Experimental and Clinical Medicine, University of Florence, Firenze, Italy; [2]Center for Atherothrombotic Diseases, Careggi University Hospital, Firenze, Italy; [3]NEUROFARBA Department, Neuroscience Section, University of Florence, Firenze, Italy; [4]Institute of Neuroscience, Italian National Research Council, Sesto Fiorentino, Italy; [5]Neuroradiology Unit, Careggi University Hospital, Firenze, Italy

Background. Atrial fibrillation is the most common arrhythmia, associated with increased risk of ischemic stroke and mortality. Neuroimaging has shown a high prevalence of cerebral small vessel disease markers in AF patients, but the underlying mechanisms remain unclear.

Objectives. To investigate the association between microangiopathic and non-microangiopathic neuroimaging markers of cerebrovascular damage and cardiac morphological features in elderly atrial fibrillation patients on oral anticoagulants.

Methods. We performed a cross-sectional analysis within the Strat-AF 2 study. From March 2021 to June 2022, we consecutively enrolled patients >65 years with AF on oral anticoagulants for thromboembolic prevention. All underwent clinical assessment, neuroimaging (magnetic resonance imaging, or computed tomography scan), and echocardiography.

Results. A total of 179 patients were included (mean age 78.6 ± 6.7 years, 58% male): 100 underwent magnetic resonance imaging and 79 computed tomography. Non-lacunar infarcts were present in 26%, while 79.3% showed at least one cerebral small vessel disease marker. Mean indexed left atrial volume was 48.5 ± 19.8 mL/m^2. In multivariate analysis, non-paroxysmal atrial fibrillation was independently associated with non-lacunar infarcts (OR 2.95; 95% CI 1.07–8.12; p=0.036). Larger left atrial volume was independently associated with both moderate-to-severe medial temporal lobe atrophy (OR 1.025 per mL/m^2; 95% CI 1.003–1.047; p=0.024) and lacunes (OR 1.008; 95% CI 1.010–1.017; p=0.05).

Conclusions. In elderly AF patients on OAC, cardiac structural parameters were associated with both microangiopathic and non-microangiopathic brain lesions, even in the absence of prior ischemic stroke. Larger longitudinal studies are needed to confirm and clarify these associations.

