RUPATADINE TREATMENT IS ASSOCIATED TO ATHEROSCLEROSIS WORSENING AND ALTERED T LYMPHOCYTES RECRUITMENT IN APO-E DEFICIENT MICE

E. Franchi[1], M. Busnelli[1], S. Manzini[1], A. Colombo[1], F. Bonacina[1], G.D. Norata[1], S. Castiglioni[1], C. Andronis[2], E. Lekka[2], E. Scanziani[3], G. Chiesa[1]
[1]Department of Pharmacological and Biomolecular Sciences, Università degli Studi di Milano; [2]Biovista, Athens, Greece; [3]Mouse and Animal Pathology Laboratory (MAPLab), Fondazione UniMi, Milano
E-mail: elsa.franchi@unimi.it

Background and Aims. Rupatadine is a second-generation antihistamine and a PAF antagonist, currently employed for the treatment of allergies. It displays anti-inflammatory properties through the inhibition of macrophages and granulocytes recruitment. The anti-inflammatory and antiplatelet effects showed by rupatadine could be exploited against atherosclerosis development.
Methods. Apolipoprotein E-deficient female mice (n=15 per group) were fed Western-type diet, with (Rupatadine) or without (Control) 0,017% w/w rupatadine for 12 weeks.
Results. Weight gain, food and water intake and organ weights were similar in both groups. Also, plasma cholesterol and triglyceride levels were comparable. Atherosclerotic plaque extent in the aorta was comparable between groups. Unexpectedly, rupatadine treatment worsened plaque development in the aortic sinus, without altering necrotic core area, extracellular matrix and neutral lipids deposits and the presence of macrophages. The treatment increased the levels of T lymphocytes intraplaque (+70%) and around the aortic sinus (+80%). Rupatadine effects on T cells were also evaluated with in vitro tests, which showed that rupatadine did not affect cell proliferation, but promoted the polarization of CD4+ towards Th1 and Th2 subsets. No difference in inflammatory infiltrates was detected in liver, lung, kidney, lymph node and spleen.
Conclusion. In conclusion, rupatadine treatment in EKO mice fed Western diet resulted in a moderate worsening of atherosclerosis development and an altered T lymphocyte activation.

IMPACT OF THE COVID-19 PANDEMIC ON THE MANAGEMENT OF PATIENTS WITH CHRONIC CARDIOVASCULAR THERAPIES IN LOMBARDY

F. Galimberti[1], E. Olmastroni[2], A.L. Catapano[3], E. Tragni[2], M. Casula[3]
[1]IRCCS MultiMedica, Via Milanese 300, 20099, Sesto S. Giovanni (MI); [2]Servizio di Epidemiologia e Farmacologia Preventiva (SEFAP), Dipartimento di Scienze Farmacologiche e Biomolecolari (DiSFeB), Università degli Studi di Milano; [3]IRCCS MultiMedica, Sesto S. Giovanni (MI), Servizio di Epidemiologia e Farmacologia Preventiva (SEFAP), Dipartimento di Scienze Farmacologiche e Biomolecolari (DiSFeB), Università degli Studi di Milano
E-mail: federica.galimberti@multimedica.it

The COVID-19 pandemic has posed major challenges to healthcare systems and public policies. We aimed to investigate its impact on the management of chronic cardiovascular therapies (lipid-lowering, antihypertensive, antidiabetic, and anticoagulant drugs) using administrative databases of Lombardy Region. The study period between January and June 2020 was compared with the control period January-June 2019. For all adult patients (≥40 years) with at least one prescription of the selected drugs, the percentage change in drug consumption, adherence to therapy (calculated as proportion of subjects with PDC=100%), and access to healthcare services (blood tests, diagnostic investigations, or specialist visits for disease monitoring) was evaluated. A total of 911,566 patients on lipid-lowering therapy (mean age: 70.9 years; males: 52.2%), 2,147,386 on antihypertensives (mean age: 70.1 years; males: 47.7%), 392,678 on antidiabetics (mean age: 70.7 years; males: 56.4%), and 621,976 on anticoagulants (mean age: 78.8 years; males: 51.1%) were enrolled and compared with 879,881, 2,128,334, 381,752, and 601,204 controls, respectively. Overall, there was a small change in the number of dispensed packages (lipid-lowering drugs: +3.8%; antihypertensives: -1.8%; antidiabetics: -5.9%; anticoagulants: -5.2%); however, in all the cohorts, a slight increase was observed in the first two bimesters, with a sharp decrease in May-June (lipid-lowering drugs: -6.7%; antihypertensives: -11.4%; antidiabetics: -21.3%; anticoagulants: -22.6%). Likewise, adherence to treatments showed an increase in March-April, and a reduction during the following two months. Conversely, there was a dramatic drop in healthcare services utilization in each patient cohort (lipid-lowering drugs: -23.2%; antihypertensives: -29.6%; antidiabetics: -25.6%; anticoagulants: -20.4%), with a negative spike in March/April (lipid-lowering drugs: -65.2%; antihypertensives: -66.0%; antidiabetics: -63.5%; anticoagulants: -53.9%). The COVID-19 pandemic has negatively affected the access to healthcare services by patients with chronic cardiovascular diseases. We observed a tendency to accumulate medicines at the beginning of the lock-down, and a decreased use of health services for disease monitoring compared to the control period.