

## Update in Cardiology

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Last year was very productive in terms of discovering and analyzing new therapeutic strategies in Cardiology. Atrial fibrillation (AF), a very frequent condition among cardiovascular patients, causing at least 20% of all ischemic strokes, was one of the main topics in major randomized clinical trials such as RELY, AVERROES, and ROCKET. Prevention of embolic events in patients with AF is currently achieved with vitamin K antagonists (VKA), but is worldwide known the problematic pharmacological properties of VKA. This problem led to the development of specific oral inhibitors of the central coagulation factors thrombin and factor Xa, which allows reliable anticoagulation without the necessity for regular monitoring. Thus, in the RELY study, a study between warfarin and dabigatran (by initial design), dabigatran given at a dose of 110 mg in patients with atrial fibrillation was associated with similar rates of stroke and systemic embolism to those associated with warfarin, but with lower rates of major hemorrhage. At a higher dose, of 150 mg, dabigatran was associated with lower rates of stroke and systemic embolism but similar rates of major hemorrhage (1). Similarly, in the

ROCKET-AF study, rivaroxaban (an oral Xa factor inhibitor) was noninferior to warfarin in terms of stroke and systemic embolism, and was superior to warfarin when analyzed the risk of stroke and systemic embolism in patients who remained on treatment over the course of the 40-month trial (2). Meanwhile, in patients with AF unsuitable for anticoagulation with VKA, AVERROES compared apixaban (another Xa factor inhibitor) with aspirin, for stroke prevention. Apixaban reduced the risk of stroke or systemic embolism and did not increase significantly the risk of major bleeding or intracranial hemorrhage (3).

Second major topic was related to the mechanism of action of polyunsaturated fatty acids (PUFA). Beside the already proven metabolic and antiarrhythmogenic effect, it was also suggested that PUFA have an antithrombotic effect. In an experimental study they decreased platelet aggregation when associated with low doses of aspirin, in patients with aspirin resistance (4). Meanwhile, in a clinical setting (OMEGA-PCI study), they increased antithrombotic effects of dual antiplatelet therapy (aspirin + clopidogrel), when used post percutaneous angioplasty (5).

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