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Stroke Prevention in Atrial Fibrillation

GEORGIOS PARCHARIDIS

Professor of Cardiology

Atrial fibrillation (AF) is one of the commonest cardiac arrhythmias. The prevalence of AF increases with age, especially over 65 years. Epidemiological studies have shown that AF is responsible for up to 20% of all ischemic strokes. Notably, strokes related to AF tend to be more severe: they are fatal in 20% and cause disability in 60% of patients. In both the short and the long term, stroke has a major socioeconomic impact. The cost of hospitalization and rehabilitation is high. More importantly, after a stroke, patients and their families suffer for many years because the disability is usually irreversible. Consequently, AF-related stroke prevention has been a field of extensive research.

Treatment strategies for stroke prevention in patients with AF are based on risk assessment. According to the latest update of the ESC guidelines for the management of AF, the preferred risk score is the CHA_2DS_2VASc score. Patients with a score >1 should take oral anticoagulants (OAC). The classic OAC drug is warfarin (or acenocoumarol). Recently, new OACs have been released: dabigatran, rivaroxaban, and apixaban. Novel OACs have some advantages compared to warfarin. They may be somewhat more effective, they eliminate the need for serial blood tests, their effectiveness is not influenced by nutrition, and they have fewer interactions with other drugs. Their main disadvantage is a higher cost, and the lack of an antidote, while experience in their use is relatively limited.

Despite the net clinical benefit, up to 40% of eligible patients do not receive OACs. The main reason behind this is reluctance amongst physicians to prescribe them because of the fear of bleeding. Instead, physicians prefer to prescribe antiplatelet agents (aspirin + clopidogrel), which are definitely less effective and also carry a significant risk for bleeding. It is highly important for the cardiological community to become informed and sensitized in relation to OAC drug prescription (either acenocoumarol or the new drugs). In the absence of contraindications, all patients with >1 risk factor should receive OAC therapy. Only if there are contraindications for OAC *unrelated to bleeding* should patients be offered the second best option of antiplatelets.

The question that arises is "what about patients who have an indication to receive OACs but suffer or have a high risk of bleeding?" Interventional cardiology might have an answer to this issue. From several transesophageal echocardiography studies, it has been documented that 90% of all embolic strokes in AF originate from the left atrial appendage (LAA). Therefore, since early 2000, percutaneous device closure of the LAA has been attempted. Results from PROTECT AF, a randomized clinical trial comparing LAA device closure with warfarin therapy that showed non-inferiority for the device, and publication of the results of several registries have led to the inclusion of LAA closure in the ESC latest guidelines: "If there are *contraindications* to OAC or antiplatelet therapy, left atrial appendage occlusion, closure or excision may be considered." For the moment this is a IIb indication (level B). Nevertheless, it is important to know that patients may have this treatment option.

In conclusion, I would like to underline our duty, as cardiologists, to improve the implementation of the ESC guidelines for stroke prevention in patients with AF in Greece. The positive impact on public health, both social and financial, will be major. It is well known that "prevention is better than cure ..."