Arrhythmias of supraventricular and ventricular origin are an important health issue due to mortality, morbidity, and the impaired quality of life of patients with which it is associated, but are also economically relevant due to the physician’s visits, hospitalizations, and interventions they lead to. For certain arrhythmias such as bradycardia of different origin and ventricular tachycardia and fibrillation, the utilization of cardiac implants such as pacemakers and implantable cardioverter defibrillators (ICDs)

One major bleeding event, as were thrombo-embolic events (i.e. 1.6%). All events occurred in the dose-adjusted uninterrupted vitamin K arm and all after catheter ablation. The numbers of any adjudicated events, any bleeding events, and any other procedure-attributable events were similar with rivaroxaban and vitamin K antagonists. The authors therefore conclude that in patients undergoing catheter ablation for atrial fibrillation, uninterrupted oral rivaroxaban appears to be a safe alternative to uninterrupted VKA therapy.

Since its introduction by Haissaguerre in 1998, catheter-based pulmonary vein isolation has often been the preferred treatment strategy for atrial fibrillation. In the second clinical research paper 'A minimal or maximal ablation strategy to achieve pulmonary vein isolation for paroxysmal atrial fibrillation: a prospective multicentre randomized controlled trial (the Minimax study)'

A minimal or maximal ablation strategy to achieve pulmonary vein isolation (i.e. maximal ablation) in 234 patients with paroxysmal atrial fibrillation. The primary outcome of recurrent atrial arrhythmia was assessed with 7-day Holter monitoring at 6 and 12 months. Pulmonary vein isolation was achieved in all patients, with ablation time being longer in the maximal group (i.e. 47 vs. 42 min). After 17 months, freedom from atrial fibrillation after a single procedure did not differ between groups and was 70% in the minimal and 62% in the maximal ablation strategy. The authors conclude that freedom from atrial fibrillation did not differ with a minimal or maximal ablation strategy. Despite attempts to achieve pulmonary vein isolation with antral ablation, intervenous ridge ablation is commonly required. Patients in whom antral isolation can be achieved without intervenous ridge ablation have higher long-term freedom from atrial fibrillation. The results are discussed in a thought-provoking Editorial by Lluis Mont from the University of Barcelona in Spain.

The risk of stroke in patients with atrial fibrillation depends importantly on patient characteristics such as age and gender, as well as the presence of hypertension, diabetes, and heart failure. The CHA²DS²-VASc score is a clinical risk stratification tool, which estimates the risk of stroke and thrombo-embolism in non-valvular atrial fibrillation based on such parameters. In the third clinical research paper 'Prognostic value of CHA²DS²-VASc score in
patients with ‘non-valvular atrial fibrillation’ and valvular heart disease: the Loire Valley Atrial Fibrillation Project’. 

Laurent Fauchier and colleagues from the Centre Hospitalier Universitaire Trousseau in Tours, France aimed to determine the value of this score for risk evaluation in patients with non-valvular AF and valvular heart disease. A total of 8053 patients with non-valvular atrial fibrillation according to European Society of Cardiology (ESC) guidelines were categorized into Group 1 with no valve disease and Group 2 with valve disease with neither rheumatic mitral stenosis nor valve prosthesis. After follow-up of > 2 years, 627 cases of stroke or thrombo-embolism occurred. Group 2 was older, had a higher CHA2DS2-VASc score, and a higher risk of thrombo-embolism risk increased with a higher CHA2DS2-VASc score in both groups. The authors conclude that in patients with non-valvular atrial fibrillation, left-sided valvular heart disease except mitral stenosis or protheses was associated with an increased risk of stroke and thrombo-embolisms, with a higher CHA2DS2-VASc score as a major determinant. The implications of these results are discussed in a comprehensive Editorial by Günter Breithardt from the University of Münster in Germany.

Doxigoxin was the first drug introduced in cardiovascular medicine by William Withering in 1785. Ever since then it has been used in heart failure, but also in atrial fibrillation to slow down the heart rate and in the hope of rhythm conversion. Recently, however, the therapeutic value and safety of digoxin have been put in doubt, while others contradicted this. It therefore appears timely that in the fourth clinical research paper “Doxigoxin-associated mortality: a systematic review and meta-analysis of the literature” Stefan H. Hohnloser and colleagues from the Klinikum der Johann Wolfgang Goethe-University in Frankfurt, Germany report the results of their meta-analysis on the effects of digoxin on all-cause mortality in individuals with those conditions. A total of 19 reports were identified, 9 on atrial fibrillation, 7 on chronic heart failure, and 3 on both conditions. In all 19 studies, the adjusted mortality of digoxin was associated with a hazard ratio of 1.21. In a subgroup of patients with atrial fibrillation, those receiving digoxin had a 29% increased mortality. Among heart failure patients, digoxin-associated mortality risk increased by 14%. The authors thus conclude that while all available data sources suggest that digoxin use is associated with an increased mortality risk, particularly among patients suffering from atrial fibrillation, this meta-analysis has enormous clinical implications that have to be considered both in everyday practice and in future guidelines.

The editors hope that this issue of the European Heart Journal will be of interest to its readers.

References


A 63-year-old female who had palpitations and dizziness was referred to our hospital because of heart enlargement on chest X-ray. On TTE ASD with right-to-left shunt was detected. 320 slice CT can evaluate complex congenital heart disease as well as coronary arteries accurately and provide information on blood flow. 

In summary, this patient had remarkable cardiac enlargement on chest X-ray, and on TTE ASD with right-to-left shunt was detected. 320 slice CT can evaluate complex congenital heart disease as well as coronary arteries accurately and provide information on blood flow.