PROARRHYTHMIC EFFECTS OF FLECAINIDE

Flecainide has an established role in the treatment of common arrhythmias. The primary mechanism of action is blockade of the cardiac sodium channel, which manifests on the surface electrocardiogram (ECG) as prolongation of the PR interval and an increase in the QRS duration. The European Society of Cardiology recommends an ECG is performed within 14 days of starting therapy to screen patients for markers of proarrhythmic side effects. Our aim was to investigate the frequency of flecainide-induced arrhythmias and the role of ECG screening in contemporary practice.

Methods We performed a retrospective study of all patients either initiated on flecainide or who underwent a dose uptitration of our outpatient electrophysiology service over a three-year period in. Alongside basic demographic data, we collected information on risk assessment prior to prescription including baseline ECG, imaging and ischaemia testing. We also studied the effectiveness of post-initiation ECG screening, in particular whether this was performed and whether flecainide was discontinued if: QRS duration increased by >25%, there was a new high grade atrioventricular block or bundle branch block, or a type 1 Brugada pattern. Finally, we looked at the frequency of all side effects attributed to flecainide after its prescription.

Results A total of 318 prescriptions were issued to 306 patients over the study period, of which 239 (75%) were new, 61 (19%) were an uptitration and 18 (6%) were a reinstitution of flecainide. The commonest indication was atrial fibrillation (241/318; 76%). The majority of patients underwent some form of risk assessment prior to prescribing flecainide, including echocardiography (316/318; 99%) and an ECG within the past six months (307/318; 97%). 47 patients (15%) had an assessment for ischaemic heart disease prior to prescription. Specific instructions on acquiring ECG screening were provided to all patients. The ECG screening was performed in 154/318 (48%) patients, of which 111 (71%) had a post-initiation ECG screening. The results of ECG screening are shown in figure 1. Side effects were reported in 32/318 (10%), however apart from syncope (6/318) and tachycardia (1/318), the majority were not cardiac in nature.

Conclusion Significant QRS widening or a new bundle branch block was observed in 7% however discontinuation of flecainide occurred in a minority of cases. New high grade AV block and a Brugada pattern were rare (<1%). Whilst side effects were common, only 2% were potentially cardiac in nature and no serious harm was detected. Greater awareness of a performing a post-initiation ECG is needed and the markers for pro-arrhythmia, however most discontinuations of
flecainide occurred outside this window emphasising the role for ongoing follow up and ECG monitoring.

Conflict of Interest None

Introduction Cardiac syncope occurs when the heart fails to maintain cardiac output to match cerebral need and can occur due to either mechanical/structural defect of the heart or secondary to an arrhythmia. It has a raised 1-year mortality with some figures estimating this as high as 30%. Implantable loop recorders (ILR) are a useful diagnostic tool in patients presenting with syncope or pre-syncope to ascertain a cardiac cause. A higher number of patients are presenting with advancing age and undergoing ILR implantation. Subsequently, they end up requiring a cardiac implantable electronic device (CIED) implantation, adding to additional costs, exposure to procedural complications and frequent hospitalisations. The aim of this study was to investigate the number of patients undergoing CIED implantation following implantation of ILRs for syncope and identify predictors of CIED implantation in patients presenting with syncope.

Methods A retrospective analysis of 736 patients who underwent ILR implantation at our teaching hospital trust between November 2012 to October 2020. Data on demographics, clinical characteristics, pathology results, ECGs, holter findings and CIED implanted was collected using the local electronic patient record system. The data was analysed using SPSS software. Univariable and multivariable regression analysis and ROC curve analysis was carried out to determine prediction model for CIED implantation.

Results The mean age of patients who underwent an ILR implantation was 63 +/- 19 years. 22% of patients required CIED implantation, 68% of patients did not require a cardiac device and were safely discharged and 10% of patients died during follow up. Age (p < 0.001), male sex (p = 0.006), impaired left ventricular function (p = 0.04) and presence of hypertension (p = 0.04) were found to be independent predictors of CIED implantation on univariable and multivariable regression analysis (see table 1).

Conclusion Old age, presence of coronary artery disease, impaired left ventricular function and presence of hypertension are inter-linked and in our study were found to be key predictors of CIED implantation following ILR implantation.