Introduction Atrial fibrillation (AF) is the most common arrhythmia worldwide. The role of the pulmonary veins (PV) in its pathogenesis has been well described, as have the most frequently seen anatomical variants of these veins. Prior studies have shown conflicting evidence on the potential association of PV variants and incidence of AF. We sought to reassess this association.

Methods We conducted a retrospective case-control study of patients with AF (cases) and without AF (control group) undergoing cardiac CT imaging. We documented patient characteristics and cardiac anatomical features including PV variants, LV ejection fraction (EF) and left atrial (LA) volume/diameter.

Results 295 patients were included: 194 with AF and 101 without. 71% of AF cases were male. We showed a numerical difference for PV variants between the AF and control group that was not statistically significant (48.5% and 39.6%, p = 0.15). The overall incidence of PV variants was higher than in previous studies. A significant association was identified between left atrial appendage (LAA) morphology and incidence of AF (figure 1).

Conclusion The suggested association between PV anatomical variants and the pathogenesis of AF may not be as clear-cut as previously thought. Our study is one of the largest of its kind and provides conflicting evidence with prior studies in this area. An improved understanding of the complex pathophysiology of AF and its relation to the pulmonary veins may help to guide future preventative and therapeutic strategies.

PULMONARY VEIN ANATOMICAL VARIANTS AND INCIDENCE OF ATRIAL FIBRILLATION

Background and Aim Pulmonary vein (PV) isolation via thermal ablation remains the cornerstone of atrial fibrillation (AF) treatment. However, both cryoablation and radiofrequency ablation are limited by tissue non-selectivity, collateral damage in patients presenting to a non-PPCI centre (NIAS 91.6%, PPCI centre 83.0% and non-PPCI centre 54.7%, p < 0.001). Table 2 demonstrates a comparison of baseline demographics in patients in whom the target for reperfusion was achieved (n=235) vs those not achieved (n=314). The primary outcome occurred in 2.1% of patients in whom the reperfusion target was achieved vs 5.7% of patients in whom the reperfusion target was not achieved (p=0.04) (figure 1). The incidence of LVSD was higher in patients in whom the reperfusion target was not achieved (69.5% vs 59.9%, p=0.04) (figure 2).

Conclusion The majority of patients presenting with STEMI to the BHSCT during this period did not achieve the target time to reperfusion recommended by ESC. Failure to achieve this target resulted in both an increase in CV mortality and LVSD. More than a quarter of patients did not achieve reperfusion within a time interval whereby PPCI would be considered superior to fibrinolysis. A policy to improve time to reperfusion has not resulted in an improvement in the delivery of reperfusion therapy in patients presenting to a non-PPCI centre.

A HYBRID APPROACH USING PULSE FIELD ABLATION AND THREE-DIMENSIONAL MAPPING IN ATRIAL FIBRILLATION ABLATION: A RELATIVELY EARLY WORLDWIDE EXPERIENCE

Background and Aim Pulmonary vein (PV) isolation via thermal ablation remains the cornerstone of atrial fibrillation (AF) treatment. However, both cryoablation and radiofrequency ablation are limited by tissue non-selectivity, collateral damage...