

Holter-ECGs after 1, 3, and subsequently every 3 months.

Results: Freedom from AF recurrence following a single ablation procedure was achieved in 93% of patients from Group A and in 77% of patients from Group B after 12 months ($p=0.01$, Figure 1B). Freedom from any arrhythmia after a single procedure was not different between the groups (33% Group A vs. 29% Group B; $p=0.6$). Freedom from any arrhythmia after 1.9 ± 0.8 ablation procedures was achieved in 90% of patients of the ablation group as compared to 64% of the cardioversion group ($p=0.001$; Figure 1A).

Conclusions: Ablation of ATs occurring during persistent AF ablation significantly increases freedom from atrial fibrillation after a single ablation procedure as well as freedom of any arrhythmia after a mean of 1.9 procedures. This positive effect might be due to additional elimination of arrhythmogenic areas e.g. zones of slow conduction triggering arrhythmia relapse.

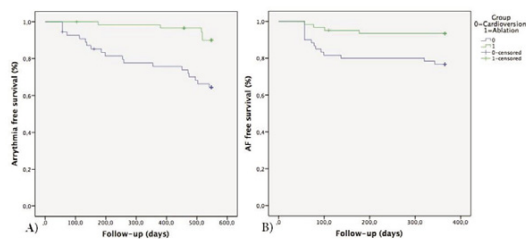


Fig. 1: Arrhythmia free survival after 1.9 ± 0.8 ablation procedures (A) and AF free survival after one ablation procedure (B).

PO02-137

ATRIAL FIBRILLATION IN PATIENTS WITH LEFT VENTRICULAR ASSIST DEVICES

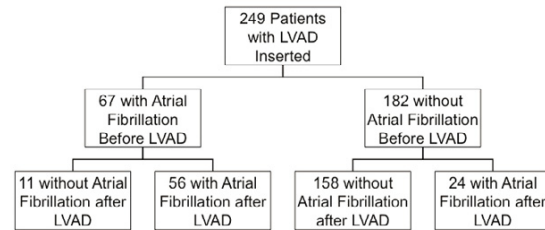
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Introduction: Left ventricular assist devices (LVADs) are pivotal treatments for heart failure and a critical bridge to heart transplantation. This study sought to determine the prevalence of atrial fibrillation (AF) and its association with cardiac outcomes in LVAD patients.

Methods: Medical records of 249 consecutive patients who received a LVAD at Columbia University were reviewed. Patient demographics, clinical variables, medications, and outcomes were recorded. Descriptive statistics were generated, and logistic regression was performed to assess the association of clinical variables with the presence of AF.

Results: Prior to LVAD placement, 182 of the 249 patients had no known history of AF, while 67 patients had a known history of AF. Atrial fibrillation was found in 80 of the 249 patients (32%) following LVAD placement. Among the 67 patients with known AF, 56 (84%) were found to have AF following LVAD placement. In addition, 24 of the 182 (13%) patients without a known history of AF were found to have AF after LVAD placement (See Figure). Patients with AF after LVAD placement were more likely to have had AF prior to LVAD insertion ($p<0.001$). Risk of stroke following LVAD insertion was not related to a history of AF prior to LVAD insertion ($p=0.50$) or the presence of AF post LVAD ($p=0.98$). In addition, a history of AF prior to LVAD insertion or post LVAD insertion was not related to mortality ($p=0.61$ and $p=0.74$).

Conclusions: While AF was common in patients with LVADs, the presence of AF was not associated with an increased risk of stroke or mortality. These observations should be considered before aggressive treatment is initiated.



PO02-139

RANDOMIZED CLINICAL TRIAL EVALUATING THE EFFICACY OF CIRCUMFERENTIAL ANTRAL PULMONARY VEIN ABLATION VERSUS SEGMENTAL OSTIAL PULMONARY VEIN ISOLATION IN PATIENTS WITH PAROXYSMAL ATRIAL FIBRILLATION

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Introduction: Two different methods for pulmonary vein isolation (PVI) during ablation for paroxysmal atrial fibrillation (PAF) have been used, but the superiority of one approach over the other has not been proven in a large prospective randomized trial. Therefore, we performed a study comparing the efficacy of circumferential antral pulmonary vein ablation (CPVA) versus segmental ostial pulmonary vein isolation (SPVI) in patients with paroxysmal AF.

Methods: Patients (pts) undergoing ablation for PAF, whose episodes were clinically <48 hours in duration, were prospectively randomized to undergo either a CPVA or SPVI. Patients underwent a minimum 7 day mobile cardiac outpatient telemetry (MCOT) monitor at 6, 12 and 24 months post-ablation. All class 1 and 3 antiarrhythmic drugs were discontinued between 3-6 months after ablation. Pre- and post-procedure care was standard and similar in both groups. The primary outcome measure was freedom from recurrence of AF, measured as absence of any ECG documented asymptomatic or symptomatic AF lasting >30 seconds on MCOT monitoring, off class I and III antiarrhythmic drug therapy. Secondary outcome measures were ablation, fluoroscopy and procedure times.

Results: At present, 54 out of 100 pts have been recruited (CPVA n=28, SPVI n=26) including 40 with at least 6 months post-ablation follow-up. Mean age was 61.3 ± 9.3 years, and 38.9% were female. There was no significant difference between groups in baseline characteristics. After an average of 15.2 ± 6.9 months follow-up, 12 (60%) pts in the CPVA group (n=20) and 14 (70%) in the SPVI group (n=20) remained free from recurrence of AF ($p=0.507$). Three (15%) pts in the CPVA group and 1 (5%) in the SPVI group developed atrial flutter or atrial tachycardia ($p=0.292$). Comparing CPVA and SPVI, there was no significant difference in fluoroscopy time (60.1 ± 22.1 min vs 58.7 ± 15.7 min, $p=0.8$), but a significantly shorter procedure time (261.6 ± 68.2 min vs 221.2 ± 58.3 min, $p=0.024$) and ablation time in the SPVI group (101.4 ± 59.4 min vs 53.8 ± 62.5 min, $p=0.006$).

Conclusions: This interim analysis showed no significant difference in the efficacy CPVA over SPVI in pts with PAF, but a shorter procedure and ablation time with SPVI.

PO02-140

IMPACT OF ORAL ANTICOAGULANT THERAPY IN PATIENTS WITH DIFFERENT CLINICAL TYPES OF ATRIAL FIBRILLATION ON PROGNOSIS AFTER ISCHEMIC STROKE

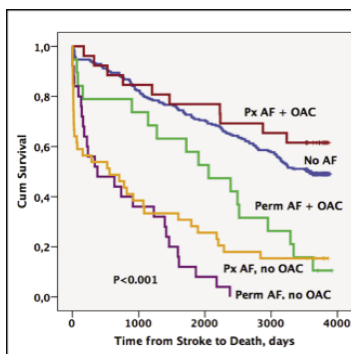
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Introduction: Oral anticoagulant therapy (OAC) improves prognosis in patients with atrial fibrillation (AF) after ischemic stroke. However, it is not fully clarified whether OAC effect is related to the clinical type of AF. The aim of this study was to assess the OAC impact on 10-year survival after first-ever ischemic stroke (IS) in patients with paroxysmal (Px) and permanent (Perm) AF.

Methods: Consecutive patients with IS (n=336, age 74±11 y, 200 men) were included from Mar 2001 to Feb 2002. AF history by admission and OAC therapy were assessed using medical records and anticoagulation database. All-cause mortality was studied using Swedish Cause of Death Register.

Results: Of the 109 patients with AF history by admission 98 were discharged alive (40 PermAF and 58 PxAF). Of those, 45% received OAC (18 PermAF and 26 PxAF). During follow-up, 200 patients died. Patients with PxAF on OAC had similar survival as patients without AF history (HR 0.71 95%CI 0.37-1.34, p=0.300), while prognosis was the worst for PermAF patients without OAC (HR 6.09 95%CI 3.87-9.60, p<0.001) and intermediate for PermAF patients on OAC (HR 2.34 95%CI 1.41-3.90, p=0.001). In AF patients discharged without OAC, the type of AF did not appear to influence the long-term outcome (Figure).

Conclusions: Long-term prognosis in patients with recurrent AF received OAC after IS was similar to those without AF history while the lack of OAC strongly predicted mortality regardless of the clinical type of AF, thus further supporting the need for proper detection of AF after IS and OAC initiation.



PO02-141

OUTCOMES FOLLOWING RADIOFREQUENCY ABLATION FOR ATRIAL FIBRILLATION: AN ANALYSIS OF ARRHYTHMIA BURDEN AND AGE

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Introduction: Maintenance of sinus rhythm (SR) following radiofrequency ablation (RFA) to treat AF and associated outcomes has been described. Prior studies, however, have used one-time recurrence rather than AF burden during follow up. Also, AF burden and outcomes after RFA within age subgroups have not been well defined. The purpose of this study was to assess AF burden and mortality following RFA in different age groups within a patient cohort during a ten year follow up period.

Methods: Patients undergoing RFA between 2001 and 2011 were divided into age quartiles (QTs). To estimate AF burden during follow up, the proportion of time spent in SR was calculated by dividing the time spent in SR by the total follow up period for each patient (Fig 1). The primary outcomes were AF burden, mortality, cardiac mortality and cardiovascular events (CVE).

Results: 3199 patients with paroxysmal (n=1,831) and persistent (n=1,368) AF underwent RFA. Age ranges in years for the QTs were 17-53 (1st), 54-60 (2nd), 61-67 (3rd) and 68-88 (4th). AF burden in each QT was 34% (1st), 34% (2nd), 36% (3rd) and 35% (4th; p=0.53). Mortality, cardiac mortality, and CVE were significantly lower in the 1st QT vs. 4th QT (p<0.001, p=0.03, p=0.04, respectively). After adjusting for age QT, maintenance of SR was associated with lower mortality (HR=0.93 for 10% decrease in AF, 95% CI 0.88-0.98), lower cardiac mortality (HR=0.84 for 10% decrease in AF, 95% CI 0.76-0.93), and similar CVE (HR=0.96 for 10% increase in SR, 95% CI 0.90-1.03).

Conclusions: AF burden following RFA was similar in all ages. Decreased AF burden following RFA was associated with significantly lower all-cause mortality and cardiac mortality after adjusting for age quartile.

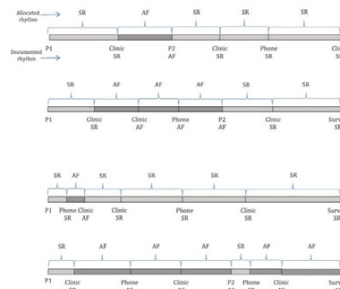


Figure 1. Schematic representation of patient timelines relative to documented and ablated rhythm. Documented rhythm was determined as the documented rhythm each week from each clinic visit, phone call, survey, or procedure (P1, P2). Short bars and light bars indicate time in actual fibrillation (AF) and time in sinus rhythm (SR), respectively.

PO02-142

AMPLIFIED 12-LEAD P-WAVE DURATION & AMPLITUDE CORRELATE TO EXTENT OF LEFT ATRIAL LOW VOLTAGE SUBSTRATE & CONDUCTION DELAY IN PATIENTS WITH PERSISTENT AF

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Introduction: Atrial fibrosis and areas of slow conduction play an important role in arrhythmogenesis in persistent AF. The ablation outcome depends on the extent of LA low voltage areas (LVA) which is quantified using high-density contact mapping. We hypothesized that the duration & amplitude of amplified