efficient ablations lesions. Nevertheless, data from randomized controlled trials are lacking.

**Objective:** Aim of the POWER PULSE trial is to compare intraprocedural safety and intraprocedural PV reconnection rates during Adenosine testing in patients undergoing PVI for PAF using HPSD ablation compared to conventional power settings.

**Methods:** We included n=150 patients that suffered from PAF and where scheduled for ablation. All patients underwent PVI. N=75 patients were randomized to the vHPSD-group with an ablation protocol with 70 watts and a duration cut-off of 7 seconds at the anterior LA and 5 seconds at the posterior LA (vHPSD group). N=75 patients were randomized to the standard-group and a conventional power protocol with 30-40 Watts for 20-40 seconds (Standard-group). Both groups where compared for periprocedural complications, procedural characteristics like RF and procedure duration and intraprocedural PV reconnection rates during Adenosine testing.

**Results:** Baseline characteristics where well balanced between groups and not significantly different. The vHPSD-group showed significantly less intraprocedural PV reconnections during Adenosine testing with 33% in the vHPSD group and 47% in the standard group (p=0.02). No periprocedural thromboembolic complications or atrio-esophageal fistula occurred in either group. Mean RF and procedural time where significantly shorter in the HPSD-group compared to the standard-group with 15.7 +/- 7.2 min vs. 44.6 +/- 19.0 min (RF time) and 89.9 +/- 19.2 min vs. 114.6 +/- 27.9 min (procedural time) (both p<0.01).

**Conclusion:** The data of the POWER PULSE Study demonstrate that vHPSD ablation is feasible with a safety profile comparable to ablation using conventional power settings. HPSD ablation using 70 watts for 5-7 seconds lead to significantly less intraprocedural PV reconnections during Adenosine testing. RF and procedural time where significantly shortened.

**CA-535-02**

**HIGH POWER SHORT DURATION (HPSD) VERSUS LOWER POWER LONGER DURATION (LPLD) ATRIAL FIBRILLATION ABLATION: A PROSPECTIVE MULTICENTRE RANDOMISED CONTROLLED STUDY. THE HI-LO HEAT STUDY**

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**Background:** RF ablation for pulmonary vein isolation (PVI) in AF is associated with risk of esophageal thermal injury (ETI). High power short duration (HPSD) ablation results in preferential local resistive heating over distal conductive heating. HPSD ablation shortens procedural times with no increase in complications. However evidence had been limited by non-randomised studies.

**Objective:** To compare HPSD versus LPLD ablation and the effects on ETI and procedural outcomes.

**Methods:** 88 patients with paroxysmal/persistent AF were randomised to HPSD or LPLD ablation. Anterior antral lines were done at 40-50 W, with target of AI 500-500/ LSI 5-5. Posterior antral lines were done using 40-50W (HPSD group) or 25 W (LPLD group), with targets set as AI 400/LSI 4, or temperature rises >38°C or > 1°C rise within 5 seconds. Circa multi-sensor probe was used. Endoscopy was performed in all patients. The primary outcome was ETI incidence.

**Results:** Mean age was 61 +/- 9 years, with 31% females. Baseline characteristics were similar, except higher hypertension rates in HPSD (p=0.02). 4 cases of ETI (4.5%) were detected, all superficial ulcers, with equal occurrence in HPSD and LPLD (p=1.0). RF ablation times were lower in the HPSD cohort (23.8 vs 29.7 minutes, p<0.01). Procedural times were lower in HPSD, although not significant (133.7 vs 150.8 mins, p=0.05).

**Fluoroscopy time, first pass isolation rates, and acute PV reconnection rates were not significantly different. Arrhythmia recurrence (post blanking) was similar across both groups (p=0.15).

**Conclusion:** HPSD ablation, compared to LPLD ablation, resulted in comparably low rates of ETI, with reduced RF ablation and total procedural times. HPSD ablation is a safe and efficacious approach to PVI.

**CA-535-03**

**SAFETY AND EFFICACY OF VERY HIGH-POWER SHORT-DURATION ABLATION FOR PULMONARY VEIN ISOLATION**

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**Background:** A very high-power short-duration (vHPSD) strategy of radiofrequency (RF) ablation aims to minimize conductive heating and increase resistive heating.

**Objective:** The aim of our study is to evaluate the feasibility, efficacy and safety of the vHPSD ablation of the for pulmonary vein (PV) isolation in patients presenting with paroxysmal or persistent atrial fibrillation (AF).

**Methods:** This prospective non-randomized study enrolled consecutive AF patients undergoing PV isolation. The vHPSD ablation was performed with the QDOT catheter, applying 90 W, for 4 s, with an irrigation of 8 ml/min. RF was delivered targeting interlesion distance ≤ 6 mm. The PV was assessed at the end of the encirclement with the Pentaray catheter by entrance block and by remapping.

**Results:** Overall 163 patients (29 with persistent AF) were enrolled. The mean age was 61 ± 8 years, 60% had hypertension and 10% diabetes mellitus. PV isolation was obtained in all patients and at first-pass in 144 (88%) with a mean number of 83 ± 15 RF pulses. The mean procedural time was 85 ± 26 min, the mean fluoroscopy time was 9 ± 6 min and the mean RF time was 5,5 ± 1 min. In 5 patients (3%) access-related vascular complications occurred. The mean follow-up (fu) was 8 ± 3 months (fu>6 months in 109 patients; fu>12 months in 15 patients) and the freedom from AF recurrence was 97% in the overall population and in the paroxysmal and persistent subgroups as well (Figure).

**Conclusion:** The vHPSD ablation represents an effective and safe ablation strategy to achieve PV isolation in paroxysmal and persistent AF patients.
CA-535-04

PULMONARY VEIN ISOLATION FOR ATRIAL FIBRILLATION USING TRUE HIGH POWER SHORT DURATION VS. CRYO-ABLATION

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Background: Pulmonary vein isolation (PVI) in patients (pts) with paroxysmal (PAF) and persistent (persAF) atrial fibrillation is equally achievable and effective using a cryoballoon (Cryo) or radiofrequency (RF) catheter ablation (CA). The newly introduced high RF power short duration ablation (HPSD) technique has shown promising results in clinical trials. However, data comparing HPSD- to Cryo-PVI is sparse.

Objective: We sought to investigate success rates and procedural differences of HPSD-PVI vs. Cryo-PVI in patients undergoing ablation for PAF and persAF.

Methods: Between 01/2018 and 08/2021 all consecutive pts. undergoing de-novo PVI (HPSD or Cryo) were included in this analysis using specifically designed database. A power setting of 70W/7s (70W/5s at posterior wall) was considered as HPSD. For Cryo-PVI a 28mm balloon was used. Follow-up consisted of out-clinic pts visits, tele-consultation, 48h holter ECG and CIED interrogation if applicable.

Results: A total of 721 pts (46 HPSD, 675 Cryo) were analyzed. In all HPSD (n=46; 19 PAF [41%], 27 persAF [59%] and Cryo pts (n=675; 252 PAF [37%], 423 persAF [63%]) PVI was successfully achieved. Procedure duration was significantly longer for HPSD (108±35min vs. 77±26min, p<0.01) as compared to Cryo. Fluoroscopy time (HPSD 14±5min and Cryo 14±7min; p=1) and dose (HPSD: 3798±2460mGy*cm²; Cryo: 3199±4138mGy*cm²; p=0.333) was comparable in both groups. No major complications occurred in the HPSD group whereas for Cryo in 25 (3.7%; p=0.296) pts complications occurred (16 groin bleedings, 7 transient phrenic nerve palsies, 2 tamponades [1 lethal]). At a follow-up of 290±135 days significantly more pts were free from any atrial arrhythmia after a single procedure using HPSD (38 HPSD [82.6%] vs. 458 Cryo pts [67.9%]; p=0.047).

Conclusion: Pulmonary vein isolation using HPSD is equally effective and safe to Cryoballoon-PVI in patients with PAF and persAF. This analysis revealed a significantly higher arrhythmia free survival after HPSD as compared to Cryo with low complication rates in this relatively small HPSD cohort. The procedure duration for Cryo was significantly shorter. Currently a prospective trial is conducted to corroborate these findings.

ABSTRACT CI-563:
Sex differences in CIEDs and Arrhythmia Syndromes
Sunday, May 1, 2022
9:15 AM - 10:15 AM

CI-563-01

SEX DIFFERENCES IN THE ASSOCIATION OF OBESITY AND VENTRICULAR ARHYTHMIA IN PATIENTS WITH IMPLANTABLE CARDIOVERTER-DEFIBRILLATORS

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Background: Previous studies have reported sex differences in the association of overweight and obesity (OW/OB) and cardiovascular outcomes, including hypertension, atrial fibrillation, and coronary artery disease. However, data regarding