

**Abstract 87 Table 2** Complications during procedure and follow up

Procedural complications	CRT Upgrades n=160
A lead displaced	1
Contrast induced acute kidney injury	1
Coronary sinus dissection	2
Coronary sinus perforation	1
Displaced left ventricular lead	5
Haematoma - conservatively managed	3
Haematoma - evacuated	1
Stroke - thrombolysed and pericardial drain. Full recovery	1
Right ventricular lead damaged	1
Complications during follow up	CRT Upgrades n=160
Infection	2
LV lead displaced	1
LV lead failed	1

Table 2. Complications during procedure and follow up

upgrade, of which 6 had prior admissions with HF. LV lead placement was unsuccessful in 2 (1%). 16 procedural complications occurred in 15 patients (9%), mostly driven by lead displacement. No patient had a pneumothorax. 4 had a complication during follow up (3%) (Table 2), infection (2), LV

lead failure (1), LV lead displaced (1). Further intervention was required in 2 cases. Extraction for infection (1), LV lead re-do (1). 25% died at a median follow up of 2.7 years (1.7–5).

**Conclusion** Upgrading devices to CRT in an elderly population was achieved in 99% of cases. The major complication rate is low and it is associated with an improvement in EF in 57%.

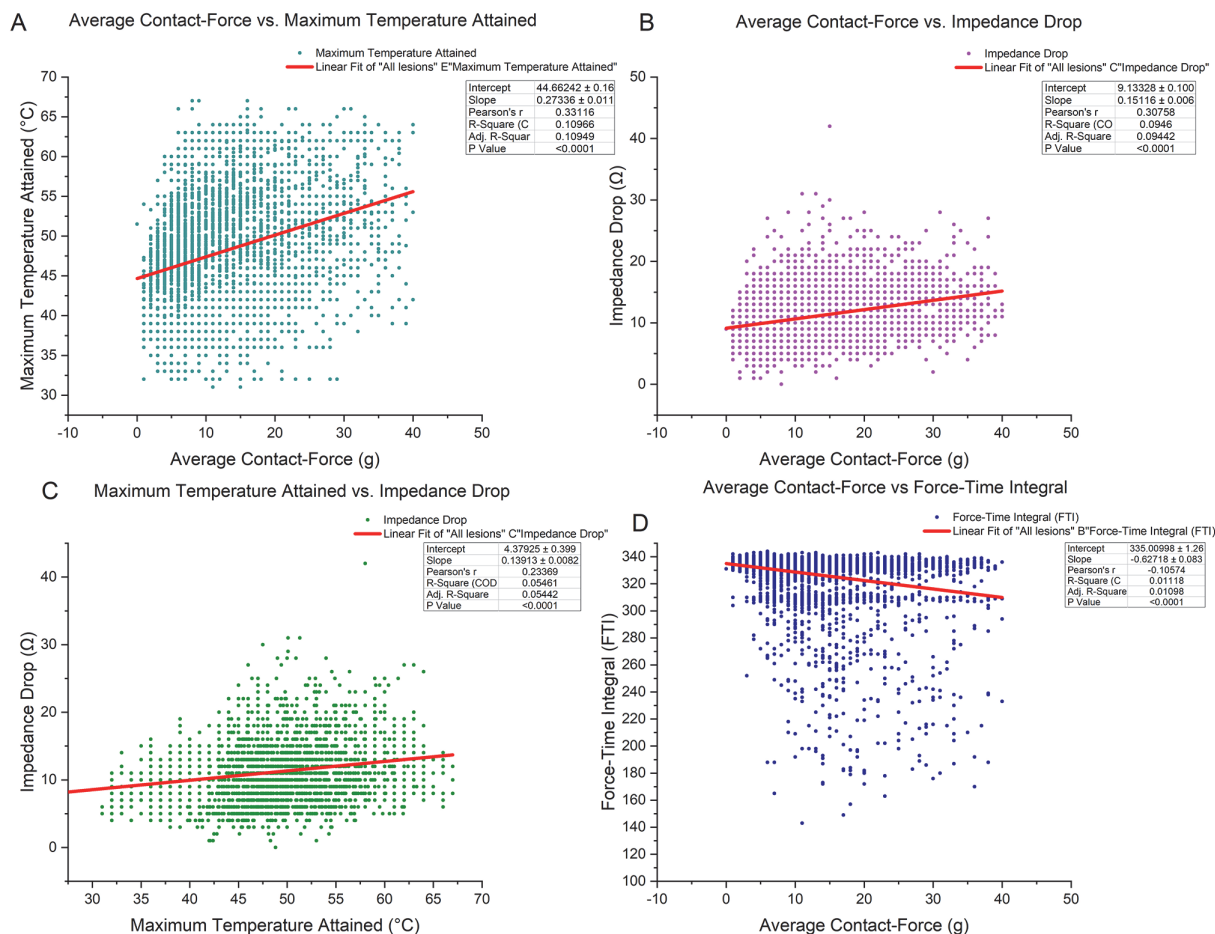
**Conflict of Interest** Nil

**88 CAN LESION PARAMETERS PREDICT EFFECTIVE PULMONARY VEIN ISOLATION IN VERY-HIGH-POWER SHORT-DURATION RADIOFREQUENCY ABLATION?**

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**Background** Pulmonary vein isolation (PVI) is the cornerstone treatment for patients with atrial fibrillation (AF) refractory to medical therapy. Recent advancements has led to the development of contact-force (CF) sensing very-high-power short-duration (vHPSD) radiofrequency (RF) ablation (90W/4 seconds). Previous RF ablation utilised Ablation Index (AI) as a marker of lesion quality to guide the operator which is not utilised in QMODE+ (vHPSD) and thus, there is limited information on effective lesion formation. In this study, we



**Abstract 88 Figure 1**

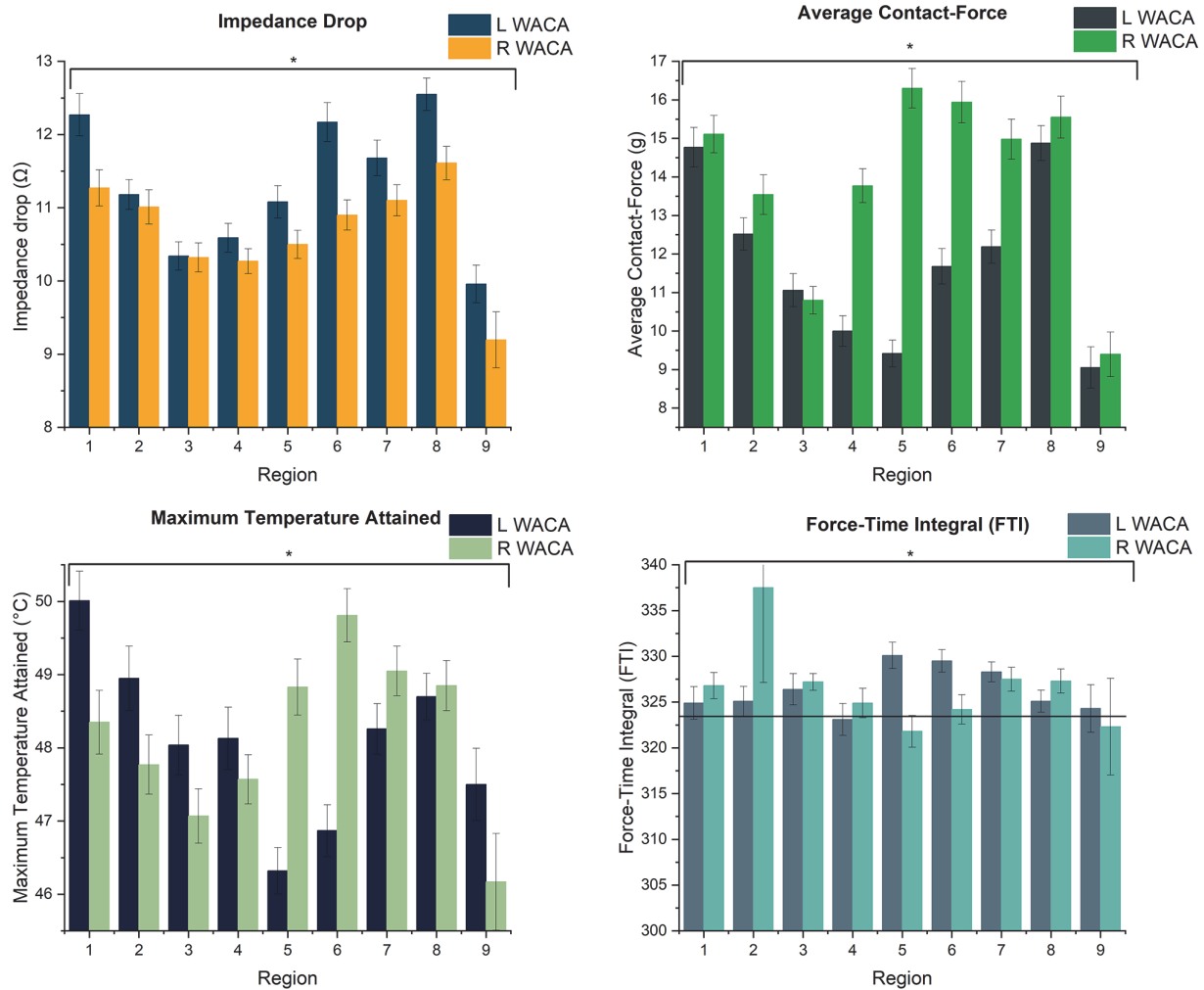
evaluated the correlation between various lesion parameters to identify relationships and potential surrogate markers for effective lesion formation. Moreover, we studied the relationship between different anatomical locations on these parameters to gain further insight. Method 50 consecutive AF patients (33 males, age  $62.0 \pm 1.31$  years, 66% paroxysmal AF) underwent first time PVI using QMODE+. All wide antral circumferential ablation (WACA) QMODE+ lesions (n=5022) were analysed for force-time integral (FTI), impedance drop, average CF, maximum temperature attained and anatomical location. The anatomical regions assessed across both left and right WACA were posterior-superior (region 1–2), posterior-inferior (region 3–4), anterior-inferior (region 5–6), anterior-superior (region 7–8) and pulmonary vein carina (region 9). All pulmonary veins (PVs) were checked with pacing maneuvers to examine for gaps in ablation lesions and adenosine for acute pulmonary vein reconnection post-ablation.

**Results** PVI was successful in all patients while a first pass isolation was observed in 26 patients (52%). A total of 5022 lesions were performed with 2461 and 2561 lesions in the left and right WACA respectively. The average CF exhibited

positive correlation with maximum temperature attained and impedance drop ( $P < 0.0001$ ) while displaying negative correlation with FTI ( $P < 0.0001$ ) (Figure 1). The PV carina (region 9) of the right WACA had the smallest impedance drop ( $P < 0.0001$ ) while the PV carina of the left WACA exhibited the lowest average CF and temperature attained ( $P < 0.0001$ ) (Figure 2). The highest number of gaps or acute reconnection (12 out of 24 patients) were seen in the region of the left pulmonary vein carina ( $P < 0.0001$ ).

**Conclusion** This is the first study that has investigated the characteristics of vHPSD ablation lesions at different regions in the left atrium. CF was positively correlated with maximum temperature and impedance drop but negatively correlated with FTI. Furthermore, ablation at both right and left PV carina demonstrate lower impedance drop and average CF which may potentially explain the greater prevalence of gaps or reconnections. This study provides detailed insight into the relationship between the anatomical region, contact force, temperature and impedance drop, and will facilitate the optimisation for effective vHPSD lesion formation.

**Conflict of Interest** None to declare



Abstract 88 Figure 2