Convergent Ablation for the Treatment of Long Standing Persistent Atrial Fibrillation - A Single Center Experience

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INTRODUCTION

- Treatment of long standing persistent atrial fibrillation (LS-AF) is very challenging.
- Conventional catheter ablation strategies often require multiple procedures and anti-arrhythmics to maintain sinus rhythm.
- Convergent ablation procedure is a hybrid approach, involving a minimally invasive epicardial ablation combined with a traditional transvenous endocardial ablation.

HYPOTHESIS

- Convergent ablation is an overall safe and effective procedure for the treatment of long standing persistent AF.

METHODS

- From February 2015 to September 2017, 30 patient (20 males) with LS-AF underwent convergent ablation at our center.
- Rest of the baseline characteristics are in Table 1.
- Epicardial ablation was performed via a sub-xyphoid, endoscopic approach followed by transvenous endocardial ablation (five radiofrequency and twenty-two cryoablation).

TABLE 1

Characteristics	(n+30)
Mean age (years)	66 ± 8
Male (%)	20 (66.6)
Mean BMI	33.3 ± 5.6
Mean Duration of AF (years)	6.5 ± 3.9
Prior cardioversion (%)	24 (80)
Prior ablation (%)	20 (66.6)
Prior Amiodarone use (%)	8 (26.7)
Prior Dofetilide use (%)	3 (10)
Prior Propafenone use (%)	1 (3.3)
Prior Sotalol use (%)	4 (13.3)
Warfarin (%)	10 (33.3)
Rivaroxaban (%)	11 (36.7)
Apixaban (%)	7 (23.3)
Dabigatran (%)	2 (6.7)
Beta blockers (%)	22 (73.3)
ACE inhibitors (%)	11 (36.7)
Calcium channel blockers (%)	10 (33.3)
Mean CHADSVASC score	2.2 ± 1.3

Characteristics	(n+30)
Mean LA diameter (cm)	4.5 ± 0.8
Mean LA volume (cm3)	76 ± 33
Mean LVEF (%)	55 ± 6
Mean epicardial lesions delivered	19 ± 3.5
Endocardial RF (%)	5 (16.7)
Endocardial Cryoablation (%)	22 (73.3)
No endocardial ablation	3 (10)
Mean LOS (days)	4.9 ± 1.2
Complications	none
Discharge on Amiodarone (%)	16 (53.3)
Discharge on Sotalol (%)	4 (13.3)
Discharge on Tikosyn/Dronaderone (%)	2 (6.7)
Discharge without AAD	8 (26.7)
Recurrent AF 30 days (%)	3 (10)
Recurrent AF at 1 year (%)	6 (20)
Recurrent AF at 18 months (%)	7 (23.3)
No of patients on AAD at 30 days (%)	9 (30)
No of patients on AAD at 1 year (%)	5 (16.7)

Patient characteristics and results: (AF: atrial fibrillation, LA: left atrium, RF: radiofrequency, LOS: length of stay, AAD: anti-arrhythmic drug)

RESULTS

- Mean procedural time was 4.5 ± 0.7 hours.
- Mean hospital stay was 4.9 ± 1.2 days.
- Acute procedural success was 100%, defined as complete pulmonary vein isolation.
- Out of 30, 22 patients were discharged on anti-arrhythmic drugs.
- At 30 days 18 (60%) patients and at 1 year 19 (63.3%) patients were in normal sinus rhythm and off AAD.
- There were no major procedural complications.
- Remaining results are outlined in Table 1.

60%
PATIENTS IN NSR AND OFF AAD AT 30 DAYS

63%
PATIENTS IN NSR AND OFF AAD AT 1 YEAR

CONCLUSIONS

- Convergent ablation is an effective alternative treatment for LS-AF demonstrating high success rates with low complication rates.
- Longer follow up and prospective trials are needed.

NO DISCLOSURES

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