

eccentric ventricular mechanical activation. In clinical practice, overt LV dysfunction is not noted in patients with WPW syndrome. The aim of the study was to evaluate the functional consequences of pre-excitation induced mechanical dyssynchrony in WPW syndrome.

**Methods:** Transthoracic echocardiography with TD and Strain imaging prior to and after (median: 1 day) successful RFA were analysed in 16 patients with pre-excitation whose electrocardiograms were suggestive of a right free wall (RFW-AP; n=8) or septal accessory pathway (S-AP; n=8).

**Results:** There was no significant depression of LV function in both groups prior to the procedure with a fractional shortening (FS) of  $35.56 \pm 4.24\%$  and a LVEF of  $64.00 \pm 1.93\%$  in the RFWAP group and a FS of  $38.53 \pm 2.04\%$  and LVEF of  $62.75 \pm 1.67\%$  in the S-AP group (p value = 0.141 and 0.147). The difference in the aortic and pulmonary pre-ejection periods – Inter Ventricular Mechanical Delay (IVMD), taken as a measure of interventricular dyssynchrony was  $28.63 \pm 1.41$  ms and  $29.25 \pm 3.62$  ms in right free wall and septal group. Septal-to-posterior wall motion delay (SPWMD) as a global measure for LV dyssynchrony showed a decrease in both groups after successful RFA ( $61.25 \pm 46.43$  ms to  $26.25 \pm 36.62$  ms in the right free wall group and  $125.00 \pm 34.64$  ms to  $28.75 \pm 24.17$  ms in the S-AP group. Further analysis with spectral TD, TVI and longitudinal/radial strain evaluated as the time difference of QRS onset to peak strain between opposing walls showed no significant intraventricular dyssynchrony.

**Conclusions:** WPW syndromes with RFW or septal APs do not cause significant inter or intraventricular dyssynchrony and do not jeopardize global LV function even though SPWMD showed improvement after RFA in the septal AP group.

## Profiling arrhythmia & heart failure patients in India – The panarrhythmia & heart failure registry

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**Background:** Studies aimed at understanding the demographic, clinical and interventional therapy indication profiles of Indian cardiac arrhythmia (CA) and heart failure (HF) patients are scarce. The purpose of the India PANARRhythmia and Heart Failure Registry (PANARM HF) was to enroll symptomatic cardiac arrhythmia and heart failure patients presenting to physicians. Their demographic and cardiovascular profiles were noted. The need for interventional device/radiofrequency ablation (RFA) therapy as well as their referral and consultation patterns to interventional specialists were also recorded. The results of the registry may provide information to improve the diagnosis, management and interventional therapy access of these patients.

**Methods:** The study included patients seen by non-interventional Consulting Physicians (CP) who medically manage CA and HF patients and refer them to interventional cardiologists (IC) for advanced treatment like RF ablation or device implantations. CPs

were trained by ICs to apply a diagnosis protocol (DP) that recorded details of history, physical exam, ECG and echo to identify CA/HF patients. 59 CPs evaluated 2205 patients from over 12 cities across India over a 2 year period. Sixteen ICs ratified the diagnosis and prescribed appropriate therapy. Registry data was analyzed to construct detailed demographic, clinical and device/RFA therapy indication profiles for CA/HF patients presenting to the CP.

**Results:** The CA/HF distribution of the 2205 patients enrolled were as follows: HF-58%, bradyarrhythmia-15%, atrial fibrillation-15%, other supraventricular tachyarrhythmia-10% and ventricular tachycardia/fibrillation-4.5%. Thirty percent patients presented with syncope/pre-syncope. The CA/HF population was predominantly male (62%) and almost 50% were below age 60. Coronary artery disease (52%), hypertension (44%), diabetes (30%) & myocardial infarction (20%) were the most prominent clinical profile of these patients. 64% of the HF patients already had advanced HF (NYHA III & IV) when they presented to the CP. Sinus Node Dysfunction (SND) was the most common cause of bradyarrhythmia (55%) compared to 2nd and 3rd degree heart block (45%).

1011 (46%) of the CA/HF population were potential device/RFA therapy candidates according to the ICs. 69% of these patients were referral to the IC. Of the referred patients, only 25% consulted the IC and were recommended therapy. Thus, 83% of patients in need of interventional therapy did not receive it.

**Conclusion:** The PANARM HF represents the first detailed demographic and clinical, profiling of CA/HF patients in India. It provides insight into the referral pattern and penetration of interventional therapy.

## Single center experience of fluoroless AVNRT ablation guided by 3D Electro-anatomic mapping

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**Background:** Catheter ablations are traditionally performed using fluoroscopic guidance, exposing both patients and medical staff to the risks of radiation. The purpose of this study was to evaluate the feasibility, safety, and efficacy of fluoroless catheter ablation using 3D Electroanatomical mapping (EAM) in adults being treated for AVNRT.

**Methods:** 18 consecutive patients (age 17-67 years) symptomatic for AVNRT diagnosed on ECG as short RP narrow QRS tachycardia with typical negative p waves in II,III,aVf and pseudo r in V1, were prospectively enrolled to right atrium 3D EA mapping and electrophysiological study and radio frequency ablation (RFA) guided by slow-pathway potential and performed using a 4-mm-tip catheter.

**Results:** Sustained slow-fast AVNRT was inducible in all the patients with a dual AV nodal physiology. Entrainment from RV was possible in all patients. Post pacing interval and typical VAV phenomenon confirmed diagnosis of AVNRT and AVRT and AT were ruled out. Acute success was achieved in 100% of the patients with a median of four RFA. Fluoroless ablation was feasible in all patients using electroanatomical map on En Site system., while in two subjects 50 seconds and 45 seconds of x-ray were needed due to difficult progression of the catheters along the