started on cardarone infusion and other supportive measures. But his liver function went abnormal and so he was put on xyloxcard infusion. But incessant VT continued and he was shifted to our hospital by air ambulance. In spite of trying all pharmacological therapy his VT continued.

So electrophysiological study was planned under CARTO mapping system which showed ventricular tachyarrhythmia was automatic in nature arising from left basal posterior region. Ablation was performed at 40 W power and 45° temperature at and around the area of VT origin. Post ablation VT was still inducible but its frequency had come down significantly and the rate was considerably lower. The next day patient was found to have only PVC's and subsequently he remained in sinus rhythm. His condition further improved and he was discharged after 7 days. A follow up after 3 months with Holter report showed no PVC's or VT and 2D echo also showed improved ejection fraction to 50%.

**Discussion:** The clinical spectrum of viral cardiomyopathy can be classified as fulminant, acute, or chronic. Viremia is followed by cardiomyocyte infection. The clinical presentation of viral myocarditis varies from nonspecific electrocardiographic abnormalities and mild viral illness to acute hemodynamic compromise or sudden cardiac death. The initial evaluation should include electrocardiography, echocardiography, and often contrast-enhanced cardiac MRI. Patients with presentations suggestive of ischemia should usually undergo coronary angiography. Patients with VT, hemodynamic instability, or high-grade atrioventricular block should usually undergo endomyocardial biopsy. All patients should receive standard heart failure care as outlined in the ACC/AHA/ESC, and Heart Failure Society of America guidelines. Ongoing trials of antiviral treatment such as the use of interferon beta may lead to the use of specific antiviral treatment in the future.

Very few reports are available where successful transcatheter cure of VT in myocariditis induced dilated cardiomyopathy are available. The VT and left ventricular dysfunction resolved with successful radiofrequency ablation. incessant VT can cause reversible left ventricular dysfunction. The diagnosis should be suspected in patients who present with incessant tachycardia and apparent idiopathic cardiomyopathy. Successful radiofrequency ablation can resolve the tachycardia and the left ventricular dysfunction.

**Conclusion:** Suspected viral myocarditis is an important cause of cardiomyopathy that presents diagnostic and therapeutic challenges. The initial evaluation should include electrocardiography, echocardiography, and often contrast-enhanced cardiac MRI. The indication for ablation in monomorphic ventricular premature beats is considered exceptional. The recommendation for ablation in repetitive VT is contemplated in patients with symptoms and those who fail to respond to or cannot tolerate drug therapy; tachycardia-induced cardiomyopathy is not mentioned. Considering that ablation in these tachycardia patients has a success rate of nearly 80% and a complication rate similar to that of other more common origins, the indication for this procedure should be assessed when there is frequent monomorphic ventricular arrhythmia (premature beats, whether isolated or associated with repetitive tachycardia) together with apparently idiopathic left-ventricular dysfunction.

## A single center experience of electrical VT storm

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**Background:** Electrical storm (ES) is a life-threatening emergency with an incidence of 10–28% and in-hospital mortality of 60–70%. We report a single center experience of 8 patients with ES.

**Methods:** All patients presenting with ES between January 2012 and August 2015 were prospectively enrolled. Clinical profiles and in-hospital outcomes were tabulated. All those discharged were followed up with review of device data logs.

**Results:** 8 patients (7 male and 1 female) presented with recurrent ICD shocks ($n = 4$) or VT/VF ($n = 4$) (Table 1). The mean age and LVEF of the cohort was 57.67 ± 7.67 years and 34.79 ± 4.17% respectively. 6 patients were electively mechanically ventilated and one additionally required IABP. All received amiodarone, lignocaine and maximally tolerated dose of beta blockers. Phenytoin and mexitiline were given in 1 patient each. 1 patient was found to have thyrotoxicosis and settled with anti-thyroid drugs. 2 patients underwent stellate ganglionectomy and 7 patients underwent VT ablation by 3D mapping. All patients had hemodynamically unstable VTs of multiple morphologies (3.17 ± 1.6). Strategies for RFA included substrate modification targeting abnormal electrograms in scar area ($n = 8$), isolation of LV aneurysm ($n = 1$) and

**Table 1**

| Patient # | Age (years) | Sex | LVEF (%) | Presentation | No of ICD shocks in a day | No of DC shocks delivered in ICCU | Rx: RFA/ Stellate/ medical only | Clinical substrate | In-hospital outcome | Follow up (months) | ICD shock and VT episodes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 61 | M | 30 | Recurrent ICD shocks | 7 | 12 | RFA | ICM | No VT | 36 | 0-0 |
| 2 | 57 | M | 35 | Recurrent VT | – | 22 | RFA | NICM | No VT | 30 | 0-0 |
| 3 | 65 | M | 25 | Recurrent VT | – | 25 | RFA | ICM | No VT | 29 | 0-0 |
| 4 | 59 | M | 30 | Recurrent ICD shocks followed by incessant VT | 26 | 45 | RFA + Stellate | ICM | No VT | 24 | 0-0 |
| 5 | 54 | M | 35 | Incessant VT/VF | – | 98 | RFA + Stellate | Early post CABG (4 weeks) | Expired | N/A | N/A |
| 6 | 69 | M | 30 | Recurrent VT | – | 30 | RFA | ICM | No VT | 8 | 0-0 |
| 7 | 46 | F | 35 | Recurrent ICD shocks | 5 | 0 | Medical | ICM | No VT | 7 | 0-0 |
| 8 | 68 | M | 25 | Recurrent ICD shocks | 4 | 0 | RFA | ICM | No VT | 4 | 0-0 |

ICM: ischemic cardiomyopathy; NICU: non-ischemic cardiomyopathy; RFA: radiofrequency ablation.

mapping VT ($n = 1$). In 3 patients ICD was implanted after ablation. 7 patients (87.5%) survived to discharge and are on regular follow up (19.71 ± 12.08 months) and none had any recurrence of VT or ICD shocks since discharge. 1 patient expired due to pulmonary complications 2 weeks after ablation.
**Conclusion:** ES is a challenging clinical problem. VT ablation and stellate ganglionectomy has improved outcomes.

## Improve SCA trial. Initial experience in India

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**Introduction:** Improve SCA aims to find a group of primary prevention ICD patients with VT/VF treatment rates similar to secondary prevention patients. The study intends to enroll 4800 patients worldwide, with approximately 1600 coming from India. We hypothesized rates of ICD implant vary by country.
**Methods:** At baseline, patients were identified as either primary or secondary prevention. Primary prevention patients who met at least one of four risk criteria (syncope, NSVT, frequent PVCs, or LVEF < 25%) were identified as 1.5 patients, those who did not meet criteria are labeled 1.0 patients. The decision to implant an ICD was at the patient's discretion, e.g., to choose whether or not they wished to receive a device implant.
**Results:** Through 14 months of study enrollment, 236 out of 994 patients enrolled were from India. The overall average age was 59.0 ± 13.6, with a 74%/26% male/female distribution. Patients had been enrolled from 12 different countries. Of those enrolled, 825 (158 in India) had complete baseline/implant data, 31% (16% in India) of whom were secondary prevention patients. Of the primary prevention patients, 70% (65%) were in the 1.5 category. As expected, the rate of implant in India varied depending on the indication, with 92% of secondary prevention patients, 31% of 1.5 patients, and 22% of 1.0 patients choosing implant.
**Conclusion:** Initial enrollment in the improve SCA study, conducted in emerging countries, has seen a large percentage of primary prevention patients. Percent of patients declining ICD therapy varies by indication and country. In India, a greater number of primary prevention patients have declined implant.

## Successful retrieval of J-guidewire from right atrium accidentally dislodged during temporary pacing

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**Introduction:** Conduction system disorder is one of the leading cause of morbidity and mortality in India specially in the eastern part. Most of the patients present to the emergency department with bradycardia and asystole and they need to be treated immediately by temporary pacemaker implantation followed by implantation of permanent pacemaker. Although fluoroscopy is needed for the very purpose, but sometimes due to emergency situation temporary transvenous pacemaker are implanted without fluoroscopy at bedside Guidewire-associated complications can occur during the process of sheath insertion, eg: kinking, looping, and knotting. Rarely the wire can be dislodged in the vasculature, where it can cause vessel damage, major hemorrhage, or embolization to vital structures. We report a case of J-guidewire dislodged accidentally to the right atrium. The guidewire was successfully withdrawn with the help of a pigtail catheter under fluoroscopic guidance. The patient remained hemodynamically stable throughout the procedure. In this way, we averted an open surgical procedure.
**Case report:** A 65-year-old diabetic male, known case of CAD, post CABG presented with 2 episodes of syncope to the emergency department. His pulse was 20/min and BP was 40 mmHg (systolic). ECG showed complete heart block. As the cathlab was occupied by ongoing procedure, so, temporary pacemaker was implanted through femoral vein immediately after admission at the bedside and patient became stable. Next day, he was taken to cathlab for permanent pacemaker implantation. On OT table, when we checked the position of temporary pacemaker lead, we were surprised to see that the short J-guidewire is present inside the heart; curved upper end being at the top of right atrium. To avoid open cardiac surgery, we decided to retrieve the wire under fluoroscopic guidance. Unfortunately snare was not available, so we tried to apply some ideas so that it can be removed under fluoroscopy. First, we removed the temporary pacemaker lead as the patient was in sinus rhythm at that time. Then, we tried to insert a long femoral sheath over the lower end of the J-wire with the intent to insert a PTCA wire and balloon and subsequently to remove the wire by inflating the balloon and pressing the wire against the inner wall of the sheath. But we failed in the first step. Then, we tried with a handmade snare out of a PTCA wire; again we failed. Next, we inserted another J-wire and tried to wrap it around the dislodged wire; but whenever, we tried to pull it, it slipped away. Finally, we introduced a 5 F pigtail catheter, and wrapped it around the J-wire. With gentle pull, it came down from right atrium and the lower end engaged in femoral vein. With a small incision over femoral vein, we removed the J-wire and we averted an open surgical procedure.
**Discussion:** Complete heart block with syncope is one of the important cardiac emergency and need to treated with immediate transvenous temporary pacemaker implantation. Although temporary pacemaker lead implantation is a simple procedure, one should be extremely careful. Preferably, it should be done in the cathlab. Depending upon personal preferences, it can be done through femoral, jugular and subclavian vein. After the procedure, one should always check that the needle, J-wire, dilator is discarded. Snare should always be available at the cathlab. Innovative ideas can avert many complications. One should have patience during any complication.

## Under-utilization of pacemaker therapy for sinus node dysfunction – Real world data from South Asia

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**Introduction:** Symptoms caused by sinus node dysfunction (SND), the most common bradyarrhythmia, can only be mitigated by permanent cardiac pacing. Yet pacemaker therapy remains underutilized in developing regions of the world. The IMPROVE Brady study is the first prospective evaluation aimed to identify factors related to therapy prescription in underserved regions.
**Methods:** Patients presenting with symptoms such as fatigue, shortness of breath, and syncope, a heart rate of ≤50 beats per