Catheter Ablation of Ventricular Tachycardia in a Patient Presenting with VT Storm

Dr. Anupam Jena
Assistant Professor of Cardiology
Kalinga Institute of Medical Sciences, Bhubaneswar
Case Summary

• Mr.SP, 63yrs/M

• H/O STEMI (Anterior wall) in 2013
  • PCI to LAD was done in 2013

• LV ejection fraction = 35-40%

• Sudden cardiac arrest 2 months after PCI → revived after cardioversion

• Secondary prevention ICD was done
Case Summary

• P/C – multiple ICD shocks (13 shocks in 1 day)
• ICD interrogation
  • Sustained monomorphic VT, terminated by shock
Episode: VF (230 min⁻¹ / 260 ms)

20 Jul 2018 22:26

VT/VF Episode 11 of 11
Page 2 of 3

SVT/VT Episode 11 of 11
Page 2 of 3

Sweep Speed: 25 mm/s

PVC, CI=492 msec
Late coupled PVC, CI 504 msec
Episode: VF (230 min⁻¹ / 260 ms) (Continued)

20 Jul 2018 22:26

1: A Sense Amp  AutoGain (1.6 mm/mV)
2: V Sense Amp  AutoGain (0.4 mm/mV)

3: Markers

Sweep Speed: 25 mm/s

(VT/VF Episode 11 of 11)

Page 3 of 3
Echocardiography
Initial Management

• At presentation BP= 100/70mmHg
• Patient was started on Amiodarone infusion
• Inotrope infusion was given.
• Other supportive treatment
• Lab investigations
  • Serum K+ 4.6meq/L
  • Serum Magnesium= 2.2meq
  • Serum calcium= 9.2meq
  • Trop I - Negative
• QTc = 446 msec
• Check CAG= Patent stent, no significant stenosis
VT Ablation

- Ensite NavX Presicion™ was used
- Quadripolar catheter in RV
- Right femoral artery for LV access
LV geometry
LV Geometry
Delayed fractionated potentials
LV Voltage map
Entrainment Termination
Pace map matched VT3, S-QRS> 40msec
Ablation
Fractionated potentials
Sharp potentials
Slow VT during ablation
VT Termination During Ablation
Scar Homogenization
Post Ablation Induction
Follow up

• At 10 months follow-up
• Patient is in NYHA class II
• No ICD shocks
• One episode of VT- terminated by antitachycardia pacing
• No hospital admissions
Summary

• Patients with electrical storm (ES) have a high risk of VT recurrence and mortality.
• Patient characteristics are consistent with advanced cardiac disease
• Such patients require longer and more complex procedures.
• In patients with ES, acute procedural success is associated with a significant reduction in VT recurrence and improved 1-year survival.
• Scar homogenization is an effective ablation strategy
• Such patients are frequently unstable and don’t allow conventional mapping strategies.
Thank you