Focal Atrial Tachycardia originating from left inferior pulmonary vein

Nwe Nwe
MBBS, M.Med.Sc, MRCP, FRCP, MSc Cardiology (UK)
Dr.Med.Sc (Cardiology), FAsCC, FACC
Professor & Head
Cardiology Department, Yangon General Hospital
Yangon, Myanmar
Case Scenario

- A 38 yr female
- History of frequent palpitation
- Narrow complex tachycardia
- Not responsive to beta blocker
- Structurally normal heart
- No CV risks
Sinus rhythm with frequent PAC
P wave morphology: positive & bifid broad in V1 suggesting LA origin, negative in aVL, positive in inferior leads suggestive of left PV origin
Post isuprel – NCT initially AT degenerating to AF
At onset of tachy, RA/CS activation was reverse consistent with left sided origin
At onset of tachy, initial beat has same P morphology as before, CS & RA activation all ontime, about 4 beats of AT & then AF
- What is now?

- Two trans-septal puncture – circular catheter and irrigated ablation to LA.
Circular catheter in LAA, CS activation earlier than LAA, distal CS on time with surface P wave
LIPV activity precedes CS, LSPV & surface P wave
Circular in LIPV during tachycardia, 2:1 conduction to LA
Circular catheter in LIPV – shows spontaneous firing and two sets of signals during CS pace, presumably LA and PV signals
During RF there is termination of tachy with long sinus pause
CS pacing to terminate pause – now only single EGM in PV catheter consistent with entrance block to PV
Successful site of ablation at the anterior wall of LIPV
CS pace with entrance block persisting and short run of tachy in LIPV without conduction to LA showing exit block
Conclusions

- Focal PAC firing from anterior part of LIPV was inducing sustained AT & AF
- Ablation around the anterior wall of LIPV, where PV potentials were 66 ms ahead of surface P wave terminated the tachycardia.
- Both entrance and exit blocks were demonstrated after successful ablation.
THANK YOU