Inappropriate Defibrillator shock

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Histroy: A male patient with Dilated cardiomyopathy seen at the pacemaker clinic with history of palpitations followed by firing of his device. The following is taken from his ICD interrogation.

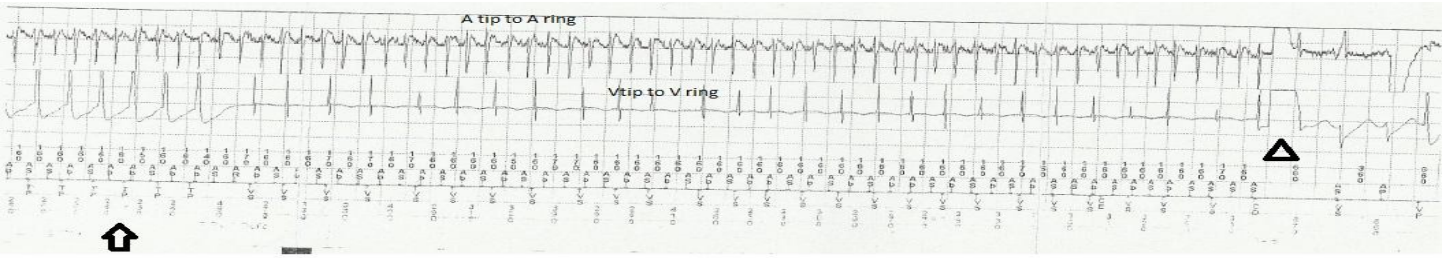


Fig 1

Interpretation:

In Fig 1:The upper tracing is the atrial rate which obniusly showed a fairly regular fast rhythm of 160ms cycle length(rate of 327 bpm)(*upper tracing labled Atip to Aring*). The middle tracing is the ventricular rate with fast irregular rhythm with an average cycle length of 320 ms (rate of 187 bpm) well into the VF detection zone. The ICD detcted the tachycardia and delivered a fast pacing burst(arrow) during charging, followed by a deffibrelating shock which successfully retstored sinus rhythm.

Fig 2 confirms the above sequence of events.

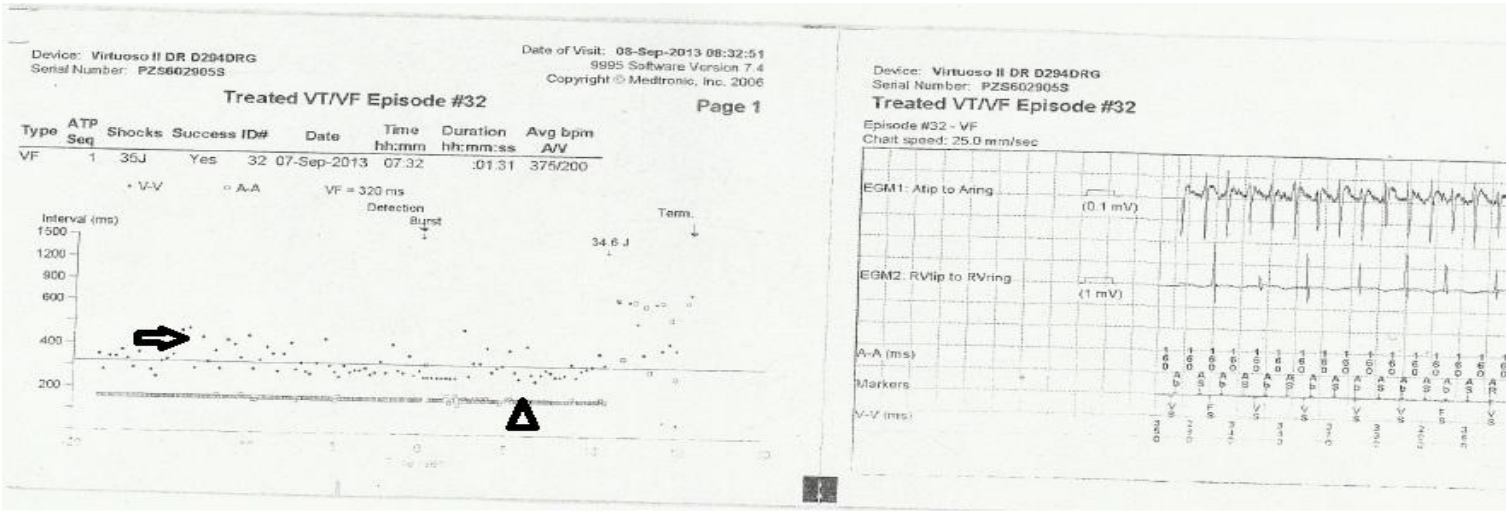


Fig 2: the arrow points to the ventricular cycle length while the triangle points to the Atrial cycle length which is well below 200 ms and quite regular

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Diagnosis: This was obviously an inappropriate shock in a patient with atrial flutter(fast regular atrial rate of around 300 bpm) with variable ventricular response. This is one of the common causes of inappropriate shock in patients with ICD. SVT discrimination criteria should be activated including stability and atrial/ventricular counter and morpgology /wave length criteria. A Beta blocker may be prescribed to prevent further episodes of fast atrial flutter/Atrial fibrillation rates in addition to life long anti coagulation with Coumadin.
