Recurrent episodes of Tordes de Pointes in patient with high degree AV block

[Introduction] A 69 years old gentleman was presented with multiple episodes of loss of consciousness at home. Electrocardiogram during admission showed high degree AV block with heart rate 50 beat per minute. Echocardiography revealed ejection fraction of 48% with anteroseptal wall hypokinesia. Coronary angiogram was done and noted two vessels disease. Both vessels, left anterior descending and obtuse marginal 1 arteries were stented and transvenous temporary pacemaker was inserted and set to pace at 60 beat per minute. Unfortunately, this patient developed multiple episodes of unconsciousness and seizure in the ward. During each episode, cardiac monitor showed Tordes de Pointes which required direct current cardioversion to be reverted into sinus rhythm. In view of recurrent Tordes de Pointes despite of correction of electrolytes abnormality, all ECG of this patient were re-examined. We found out, during high degree AV block, the QTc interval was prolonged at 674 msec. When we paced at 60 beat per minute, the QTc interval reduced to 560 beat per minute and when paced at 75, the QTc interval decreased to 492 msec. Besides that, we noted during high degree AV block, there were variation in QRS cycle length and morphology. Dual chamber implantable cardioverter defibrillator was inserted and set to pace at 75 beat per minute. After that, no more episode of Tordes de Pointes.

[Methods] N/A

[Result] N/A

[Conclusion] QTc interval will be prolonged during slowing of heart rate. It is the magnitude of QTc prolongation rather than bradycardia per se that determines the risk of Tordes de Pointes. In addition to that, in our case, the variation in QRS morphology increases the likelihood to develop Tordes de Pointes.