Rhabdomylosis Induced Type 1 Pattern Brugada Syndrome: A Differential Not to be Forgotten

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Rhabdomylosis Induced Type 1 Pattern Brugada Syndrome: A Differential Not to be Forgotten

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INTRODUCTION

Brugada Syndrome is a rare genetic mutation caused by a disruption of proteins regulating cardiac sodium channels effecting 0.012 to 0.4% of the U.S. population with type 1 pattern being the rarest of the 3 classic patterns.[1] The type 1 ECG pattern has coved ST-segment elevation in V1-V3[2], and patients can present asymptomatic, with syncope or sudden cardiac death (SCD).[1]

METHODS

A 52 y/o male presented as a transfer to our facility after a syncopal event in his vehicle. The patient was a previously healthy male with no family history of SCD. At the outside facility, he was found to have rhabdomyolysis, severe electrolyte abnormalities and Brugada type I pattern, so he was transferred to our facility for Electrophysiology (EP) evaluation.

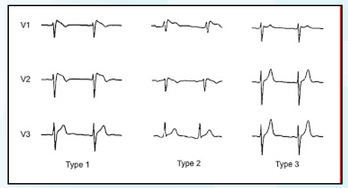


Figure 1: Electrocardiogram patterns of Brugada syndrome. Only a type 1 ECG allows diagnosis of Brugada syndrome. Positive sodium channel blocker testing is required for types 2 and 3 to diagnose Brugada syndrome. (1)

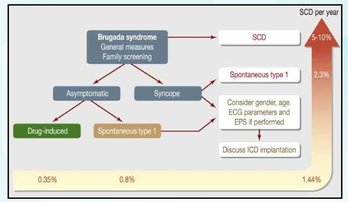
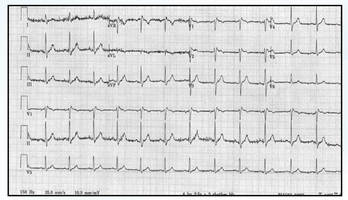


Figure 2: Indication for implantation of an implantable cardioverter defibrillator (ICD), according to the risk of sudden cardiac death (SCD). The risk of SCD is represented with a red arrow. The red boxes represents an indication for ICD implantation; the green box represents a patient who should not be implanted, according to the latest guidelines; the orange boxes are not addressed in the guidelines. (1)



Images 1: Electrocardiogram demonstrating Type I Brugada pattern.

RESULTS

The patient underwent a flecainide challenge and EP study, which was inconclusive and he was discharged on metoprolol. He followed up with EP as an outpatient and was noted on routine ECG to have return of his Brugada Type 1 pattern. He underwent successful implantation of a defibrillator for primary prevention of SCD due to high risk features of prior syncope, recurrent Brugada pattern, and male age.

CONCLUSION

Brugada syndrome is a rare, but critical diagnosis which cannot be missed as the risk of sudden cardiac death is greatly increased from the normal population. This case emphasizes the need for recurrent evaluation in patient with Brugada pattern on ECG.

References:

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