FEVER UNMASKING BRUGADA TYPE I PATTERN IN A PATIENT WITH ACUTE PYELONEPHRITIS

Irma Munoz Verdugo, MD 1; Giuliana Betancourt, MD 1; Nerissa Fernandes, MD 1; Amir Naqvi, DO, FACC, Cardiology 1

1Advocate Christ Medical Center, Internal Medicine Residency Program

BACKGROUND
Brugada Syndrome is an autosomal dominant disorder associated with an increased risk of ventricular tachyarrhythmias and sudden cardiac death. The prevalence of Brugada pattern is less than 1% and is more predominant in men. Fever is a well-known provoking factor for induction of Brugada and cardiac arrest. We present a case of Brugada pattern diagnosed during a febrile episode in a previously healthy woman.

PURPOSE
Presenting a unique case where Brugada syndrome was diagnosed during a febrile episode to raise awareness of the condition.

UNIQUENESS
A rare case of Brugada syndrome unmasked during a febrile episode.

CASE DESCRIPTION
A 44-year-old female with diabetes mellitus and hypothyroidism presented to the hospital with four days of high fever, left flank pain, dysuria and hematuria. On arrival, she was tachycardic, normotensive, and febrile to 103 °F. Electrocardiogram (EKG) performed prior to admission was remarkable for sinus tachycardia. Initial laboratory evaluation was notable for white blood cell count of 15.9, lactic acid 2.6, magnesium 1.5 and troponin <0.02. Urinalysis and clinic exam were consistent with pyelonephritis, and she was subsequently admitted to the hospital for intravenous antibiotics.

On day one of admission, the patient developed pressure-like, mid-ternal chest pain and a fever of 102.7. [Fig. 1]

New EKG during febrile episode showed the presence of ST elevation in V1 and V2 leads without reciprocal changes was consistent with type I Brugada pattern [Fig 2.]

INTERVENTIONS & TIMELINES
During her hospital course, telemetry demonstrated no arrhythmias, transthoracic echocardiogram remarkable for an ejection fraction of 68%, and a computer tomography (CT) performed was negative for coronary calcifications.

Electrophysiology study revealed no drug-inducible arrhythmias.

Treatment was tailored toward aggressive antipyretic therapy and the consideration of an implantable cardioverter defibrillator (ICD).

OUTCOMES
The patient was discharged to home after the infection subsided in stable condition and with further Electrophysiology and Cardiology follow-up.

DISCUSSION & CONCLUSION
Most cases of Brugada are diagnosed in adulthood. If not promptly identified, there is an increased risk of sudden cardiac death. Our patient demonstrated the classic type I pattern but without inducible tachyarrhythmias. Common triggers include fever and medications.

Clinical assessment and electrophysiology study play an essential role in the diagnosis and further medical decisions, but treatment should always be directed to precipitating factors as well as the evaluation for an implantable cardioverter defibrillator.

Overall mortality for cardiac events in asymptomatic patients with Brugada pattern is less than 0.5% however screening of first-degree family members is imperative.

REFERENCES
