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FIT Clinical Decision Making

A WIDE COMPLEX RHYTHM, DOES IT TELL THE WHOLE STORY?

Poster Contributions
Poster Hall B1
Monday, March 16, 2015, 9:45 a.m.-10:30 a.m.

Session Title: FIT Clinical Decision Making: Arrhythmias and Pericardial Disease
Abstract Category: Arrhythmias and Clinical EP
Presentation Number: 1248-150

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Background: A 50 year old Caucasian man with history of hypopituitarism, hypothyroidism, hypertension, diabetes, depression and atrial fibrillation presented with altered mental status. Wife found patient unresponsive after he had difficulty sleeping, who took few sleeping pills. At ER, he was lethargic and barely responsive. Wife reported that patient had diarrhea and abdominal pain with eating for 1 week. Physical exam was normal except for blood pressure 74/23 mmHg, heart rate 59 per min and irregular, respiratory rate 25 per min and his speech was delayed. Shortly after, he went into PEA cardiac arrest twice with ROSC after giving epinephrine and CPR. EKG showed markedly widened QRS complex with RBBB pattern, coved ST elevation with T-wave inversion in leads V1 and V2 consistent with a type 1 Brugada pattern, QRS prolongation and a QTc around 700.

Decision Making: Patient had an idioventricular rhythm. EKG derangements though similar to Brugada pattern, were supportive of drug or metabolic cause of arrhythmia. Review of medications revealed use of abilify, cardizem and flecainide (Fc). Bicarbonate drip to titrate to a pH of 7.5, lipid emulsion therapy and electrolyte replacements were begun for suspected Fc toxicity. Patient went in and out of cardiac arrest 4 times in the ICU successfully resuscitated each time. Patient sustained a brief seizure activity consistent with Fc toxicity. Patient succumb to the disease after fifth code was terminated upon family's request. The Fc level reported 8 days later as 5.89 mcg/ml (normal range: 0.20 - 1.00 mcg/mL) confirmed Fc toxicity.

Conclusion: Fc is associated with PR, QRS, and QTc prolongation on the electrocardiogram and Fc overdose can rapidly result in profound cardiovascular collapse, and is associated with a relatively high mortality. The case illustrates that IC agents can cause Brugada type pattern and QRS widening as seen in our case. This case demonstrates the importance of recognizing the perfect storm that can result in a fatal Fc overdose. Our patient was likely resistant to treatment because of electrolyte abnormalities due to diarrhea, diabetic ketoacidosis, and use of antidepressant abilify with Fc creating the perfect storm for Fc overdose.