Just another STEMI activation?

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The EMS story

- EMS calls with 62 y/o Caucasian male with profound weakness x 2 days
- Transferred from PCP’s office, denies chest pain and SOB
- BP 136/84, HR 92, respiratory rate 18, O2 sat 95% on RA
- ? STEMI activation
The patient’s story

• Fevers, rigors and profound weakness x 2 days; avid hunter
• 1 mo prior, seen by dermatologist for skin rash and multiple tick bites
• WBC 8.8, H/H 37.7/12.8, plts 224K
• Babesia IgG & IgM (+) at 1:320 dilution (< 1:10 is negative) – not treated!
• Ehrlichiosis, anaplasmosis & Lyme titers (-)
Past history

- Hypothyroidism, prediabetes, hypertension, hyperlipidemia, gout
- Rosuvastatin, levothyroxine, losartan, probenecid
- No allergies
Physical exam

- Appears profoundly fatigued
- VS unchanged except temp 102.1
- Lungs clear to auscultation
- CV – regular rate, no murmur, rub or gallop
- Abdomen was soft and nontender
Skin rash

![Image of skin rash](image-url)
Evaluation

- Chest x-ray & electrolytes normal
- WBC 6.9, H&H 42.6/14.8, plts 65K
- AST 73, ALT 49
- ECG unchanged from EMS tracing

- What now???
Hospital course

- Troponin, stress echo normal
- Babesiosis – atovaquone & azithromycin
- Anaplasmosis PCR (+) – doxycycline
- No unexplained syncope, seizures, nocturnal respiratory problems, FH of sudden cardiac death
Brugada syndrome

- Incomplete RBBB with ST elevations in anterior precordial leads
- Syncope, cardiac arrest and sudden cardiac death due to VT/VF
- 4% of all sudden deaths
- 20% of sudden deaths with no known cardiac disease
Pathophysiology

- Subtle structural abnormalities in the RV outflow tract
- Autosomal dominant in 50% of familial cases
- More common in Asians, men > women
- Fever, hyper- and hypo K⁺, hyper Ca⁺, alcohol, cocaine
- Only treatment is AICD
### Antiarrhythmic or antianginal drugs

- Cardiac sodium channel blockers (some have been used for drug challenge in patients with Brugada type 2 or 3 ECG pattern)
  - Class IC drugs (flecainide, pilsicainide, propafenone)
  - Class IA drugs (amitriptyline, procainamide, disopyramide, cibenzoline)
  - Lithium
- Calcium channel blockers
- Beta blockers
- Nitrates
- Nicorandil (a potassium channel opener)

### Psychotropic drugs

- Tricyclic antidepressants
  - Amitriptyline
  - Nortriptyline
  - Desipramine
  - Clomipramine
- Tetracyclic antidepressants
  - Mapiroline
- Phenothiazines
  - Perphenazine
  - Cyamemazine
- Selective serotonin reuptake inhibitors
  - Fluoxetine

### Other

- Dimenhydrinate
- Cocaine intoxication
- Alcohol intoxication

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Anaplasmosis
Babesiosis
Summary

- Brugada syndrome – it’s “benign” until it isn’t
- Incomplete RBBB – V1-2
- Unmasked by many different conditions
- VT/VF – syncope, cardiac arrest
- Only treatment is AICD