Abstract:
A 17-year-old African-American male adolescent had recurrent emergency department visits for hypertension resistant to initial treatment, which resulted in multiple hospital admissions. Hypertension was associated with significant weight loss, peripheral neuropathy, and night sweats. An extensive laboratory and imaging workup ruled out renal, cardiac, rheumatologic, and endocrine causes for his symptoms. Ultimately, a more detailed history and toxicology consultation led to the cause of his persistent symptoms: mercury poisoning.

Keywords:
Hypertension; mercury poisoning; adolescent

A Male Adolescent With Fever, Headaches, and Body Aches

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A 17-year-old African-American male adolescent presented to the emergency department (ED) with a chief complaint of fever and body aches for 3 weeks. He "felt hot" at home intermittently without any chills. This was worse at night and was accompanied by diaphoresis and a "clammy" feeling involving his hands and feet. He also complained of feeling "tired, dizzy, and weak," which caused him to miss a lot of school and led to poor school performance. The patient also complained of generalized body aches and a headache, 7/10 in severity. The body aches were worst in his knees, ankles, and hips and were described as dull and throbbing, worse at night, without any morning stiffness, or worsening as the day progressed. He denied any radiation of the pain and could not account for any exacerbating or alleviating factors. There was no history of trauma or fall, joint swelling, rash, or overuse. The headache was described as frontotemporal, unilateral, throbbing, without any photophobia or phonophobia, no aggravating or alleviating factors, and nothing taken for analgesia previously. The headache was not associated with any vomiting and visual or gait changes, and did not wake him up from sleep nor was it present on first waking. He also reported a "5- to 10-lb" unintentional weight loss over the past month. There was no history of cough, chest pain, syncope, exercise intolerance,

change in appetite, vomiting, diarrhea, travel, or exposure to tuberculosis. He was a recreational user of marijuana and was sexually active with one partner and was treated for chlamydia urethritis several months ago. His past medical history was not significant other than a history of tension headaches. Surgical history was significant for an inguinal hernia repair as well as an internal fixation of a fractured left fifth digit. His current medications included albuterol and prednisone, which were prescribed by the primary care physician for "wheezing" as needed. His family history was significant for systemic lupus erythematosus in his mother, coronary artery disease and asthma in his father, and an uncle who had a heart transplant, the indication for which was not known.

On arrival to the ED, the patient's vital signs were as follows: temperature (T) 37.0°C, heart rate (HR) 104 beat/min, respiratory rate (RR) 22 breaths/min and non-labored, blood pressure (BP) 160/89 mmHg, oxygen saturation (SpO_2) of 100% in room air, and weight of 90.8 kg. His physical exam showed an athletically built well appearing male with an unremarkable physical exam. Initial investigations included a complete blood count, serum electrolytes, thyroid function studies, liver function tests, and urinalysis and urine drug screen that were all within normal limits. An electrocardiogram (Figure) was unremarkable other than sinus tachycardia, and a bedside 2D echocardiogram showed mild to moderate concentric left ventricular hypertrophy but was otherwise normal. A chest radiograph and renal ultrasound did not show any abnormalities. The nephrology service was consulted and they recommended rapid outpatient follow-up after starting the patient on 30 mg oral (PO) Procardia XL daily and he was discharged home.

Three days later, his primary care physician referred him to the ED again for an elevated BP of 155/95. The patient also reported persistent headaches, worsening dizziness, weakness, and myalgia. He also developed a nonproductive, nonparoxysmal cough, not associated with wheezing or shortness of breath. His vital signs were: T 36.5°C, HR 116, RR 18 and non-labored, BP 171/81 mmHg, and SpO_2 of 99% in room air. His exam, including a complete neurologic exam was normal and non-focal.

Initial investigations included a complete blood count that showed a white blood cell count of 7400/mm^3; hemoglobin of 17.9 g/dl and a platelet count of 327000/mm^3. The patient also had serum electrolytes, thyroid function tests as well as serum lysozyme, renin and angiotensin levels which were within normal limits. Repeat chest radiograph and electrocardiogram were obtained which did not reveal any changes from the previous studies. Urine homovanillic acid and vanillylmandelic acid were also obtained, which were normal.

The patient was given morphine for his headache and hip pain and intravenous (IV) hydralazine and PO nifedipine for blood pressure control. He was admitted to the nephrology service with an ophthalmology consultation. Further workup included serum-free

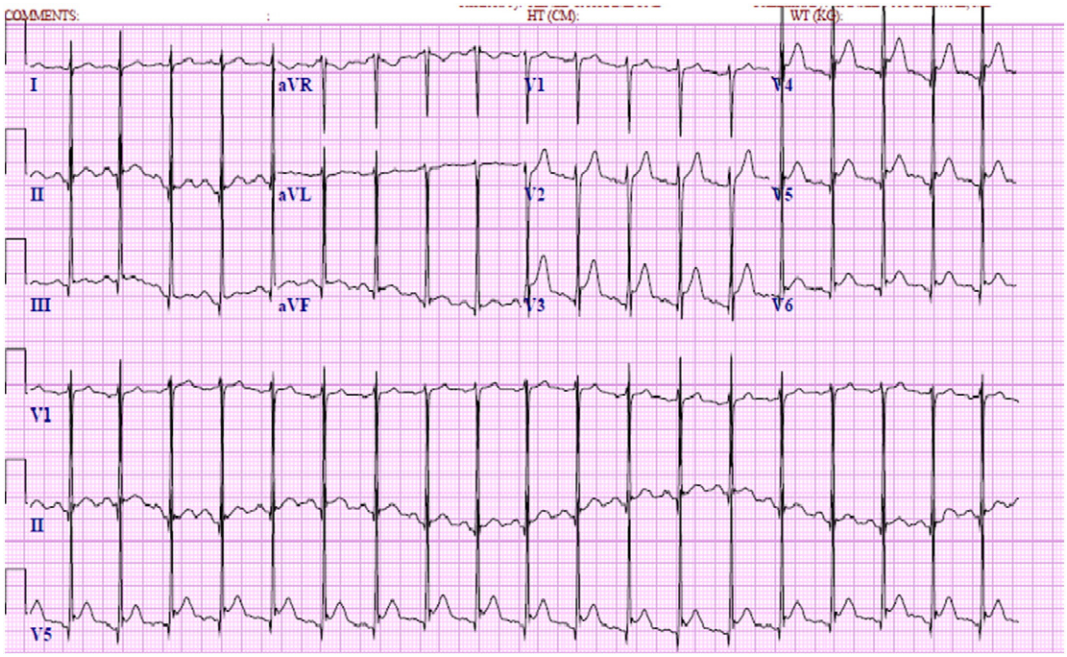

Figure. Electrocardiogram obtained during initial ED visit demonstrating sinus tachycardia.