



In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of conditions that real urgent care patients have presented with.

If you would like to submit a case for consideration, please email the relevant materials and presenting information to editor@jucm.com.

A 9-Year-Old Boy with Pain After Twisting His Knee



Figure 1.

Case

The patient is a 9-year-old boy who was brought in by his parents with right knee pain. He reports that he twisted it while reenacting *Star Wars* battles in the backyard with friends. His parents did not witness the injury.

View the image taken (**Figure 1**) and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION



Figure 2.

Differential Diagnosis

- Meniscal tear
- ACL/PCL tear
- Maisonneuve fracture
- Displaced avulsion fracture of the tibial spine
- Dislocation

Diagnosis

The oval-shaped bone density projecting in the intercondylar notch region is a displaced avulsion fracture of the tibial spine, otherwise known as tibial eminence fractures or ACL avulsion fractures.

Learnings

- ACL avulsion fractures are often associated with sports or other vigorous physical activity in children 8–13 years of age
- The fracture occurs secondary to relative weakness of incompletely ossified tibial eminence compared to native ACL fibres

Pearls for Urgent Care Management and Considerations for Transfer

- This injury is painful—the knee should be immobilized prior to transfer
- Evaluate and document neurovascular status
- Pain medication should be administered, with consideration to potential emergent surgical repair which would require NPO status
- Evaluate for more serious considerations such as an open fracture, compartment syndrome, or fracture/dislocation in the proximal or distal joint ■



A 26-Year-Old Man with Palpitations

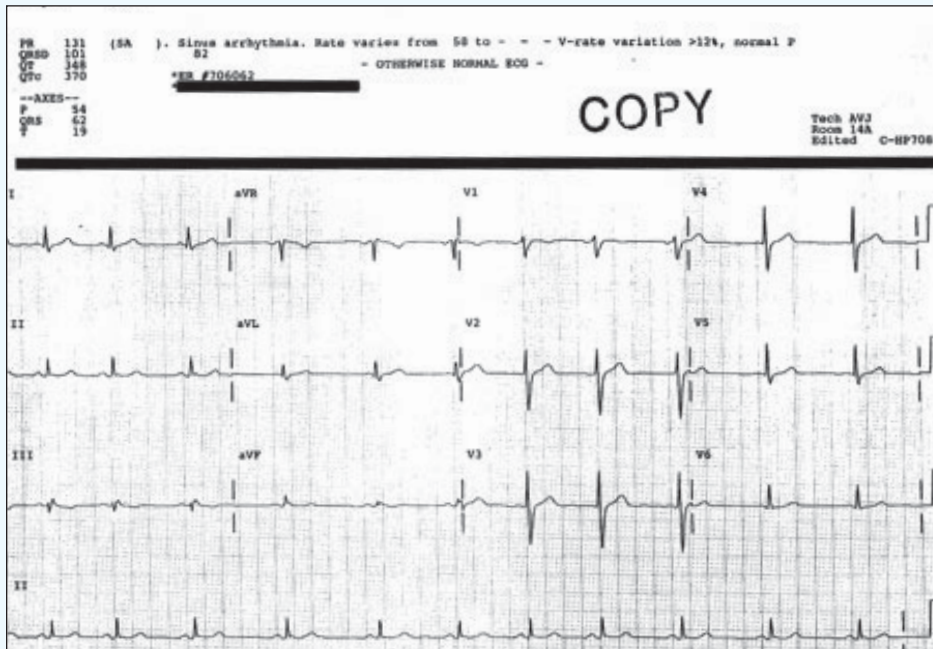


Figure 1.

Case

The patient is a 26-year-old man who presents after 3 days of palpitations. He denies any chest pain, shortness of breath, diaphoresis, fever, or dizziness. He does use home oxygen (2 L/min), but denies any new shortness of breath.

Upon exam, you find:

- **General:** Alert and oriented X 3
- **Lungs:** Clear to auscultation bilaterally
- **Cardiovascular:** Regular and tachycardic without murmur, rub, or gallop
- **Abdomen:** Soft and nontender without rigidity, rebound, or guarding
- **Extremities:** No pain or swelling, pulses are 2+ and equal in all 4 extremities

View the ECG and consider what the diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

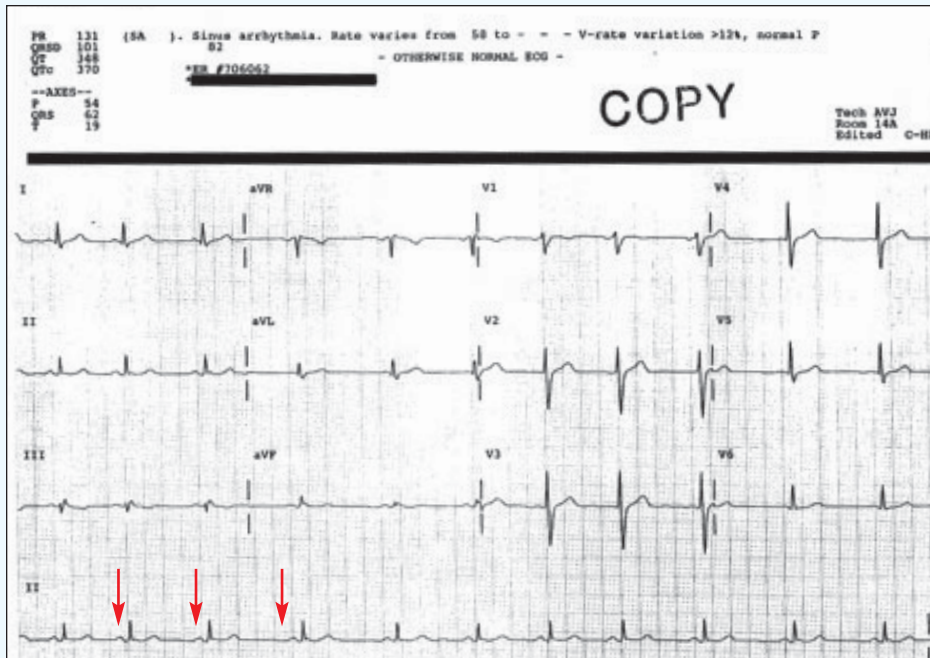


Figure 2.

Differential Diagnosis

- Sinus tachycardia
- Supraventricular tachycardia
- Atrial fibrillation
- Multifocal atrial tachycardia
- Sinus arrhythmia

Diagnosis

The ECG reveals sinus arrhythmia, with “p” waves preceding each QRS, excluding atrial fibrillation. The rate is between 60-100, so this is not a tachycardic ECG (excluding MAT, SVT, or sinus tachycardia). The PR and QRS intervals are normal, arguing against a bundle branch block or a ventricular rhythm. There are no ischemic changes suggestive of acute coronary syndrome (no ischemic ST changes or abnormal T wave inversions).

Learnings

- Sinus arrhythmia is common in young patients and is a normal physiologic response, typically due to increased or decreased vagal tone during breathing (inspiration decreases the vagal tone, causing an increase in the heart rate)
- This is a benign rhythm that sometimes will be appreciated by the patient and other times may be asymptomatic

- The complaint of palpitations is common, and a history should be taken looking for electrolyte abnormalities, ischemia, SVT, drug use, and medication interactions/effects
- If the history is not suggestive or concerning for a serious underlying problem, lab testing is not required

Pearls for Urgent Care Management and Considerations for Transfer

- Although a sinus arrhythmia is a benign rhythm, the patient should be questioned for a serious underlying cause
- If the rhythm is found incidentally and the patient is asymptomatic/without new symptoms, no further testing is necessary
- Compare the ECG to previous ECGs if available
- Indications for transfer include suspicion of ischemia, cerebral hypoperfusion (dizziness, altered consciousness, hypotension), sepsis, respiratory distress, pulmonary embolism, drug toxicity, or consideration of other life-threatening etiology ■



A 48-Year-Old Female with Pruritic Lesions

Figure 1.



Case

A 48-year-old woman presents with several red lesions that are extremely pruritic. They are scattered haphazardly on the back of her leg. A few of the lesions are still smooth nodules, but others are now excoriations; she just can't stop scratching them no matter how hard she tries. She estimates they appeared nearly a month ago. She reports a history of atopic dermatitis, but "this doesn't feel like the same thing."

View the photo and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

Figure 2.

**Differential Diagnosis**

- Prurigo nodularis
- Scabies
- Lichen planus
- Molluscum contagiosum

Diagnosis

The size and nature of the nodules—firm, dome-shaped, and smooth-topped—indicate a case point to prurigo nodularis. This is seen most commonly in patients ≥ 45 years of age, and more often in women than in men. Lesions can also be crusty, and can range in size from 1 to 2 cm, often enlarging slowly over time. They appear most often on the extensor surfaces of extremities and anterior areas of the thighs and legs (rarely on the face).

Learnings

- Prurigo nodularis may be secondary to skin conditions associated with pruritus (eg, atopic dermatitis, xerosis), as well as systemic conditions associated with generalized pruritus without a primary skin rash (eg, psychiatric conditions, HIV, iron-deficiency anemia, gluten enteropathy, renal or hepatic impairment, malignancies)
- In most cases of prurigo nodularis, the etiology of pruritus is unknown.
- Studies suggest prurigo nodularis may be a form of subclinical small fiber neuropathy, and that Th2 cytokines play an important role in pathogenesis
- Lesions are triggered by repetitive rubbing or scratching discrete areas of the skin or by repetitive picking or rubbing of nonpruritic skin ■