



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@jujm.com.

A 13-Year-Old Boy with Hip and Groin Pain After a Soccer Game

Figure 1.



Case

The patient is a 13-year-old boy who complains of pain in his right hip and groin after playing soccer. His mother says she didn't see what happened, but reports that she looked up from a magazine she was reading to see him limping suddenly.

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

THE RESOLUTION

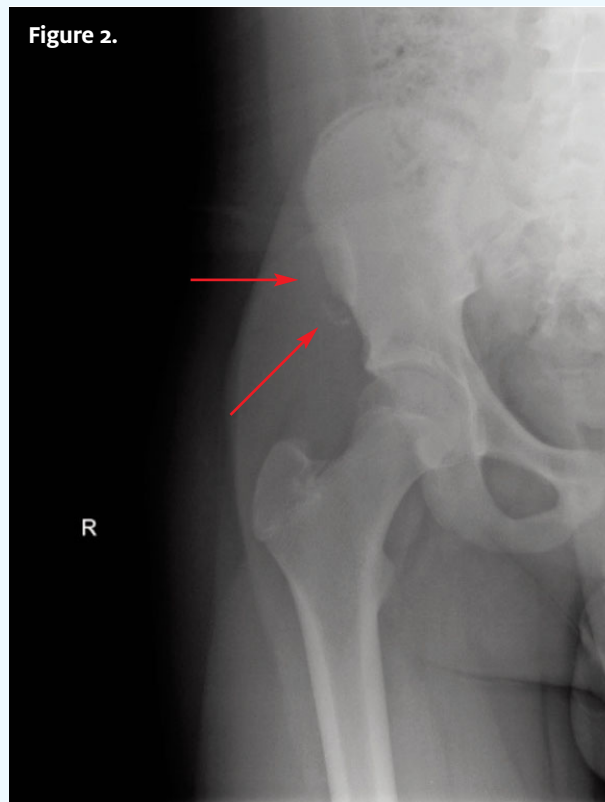


Figure 1.

Differential Diagnosis

- Avulsion fracture of the anterior inferior iliac spine
- Extra-articular femoroacetabular impingement
- Muscle strain
- Rectus femoris muscle tear

Diagnosis

The x-ray shows a displaced fracture of the anterior inferior iliac spine, with separation by 5 mm. There is also a rectus femoris muscle tear at the insertion site.

Rectus femoris is a hip flexor muscle and has two origins from the anterior inferior iliac spine and the supra acetabular ilium. Distally, it inserts on the patella and patellar ligament. Avulsion tear of the muscle and accompanying fracture of the anterior inferior iliac spine are common in boys 14-to-17 years of age, when the ratio of muscular strength to the physical strength is greatest. Rectus femoris tears are usually associated with athletic activity, including sprinting and competitive kicking sports. A sudden forceful pull of the rectus femoris muscle during a forceful extension of the hip and flexion of the knee is the mechanism of the injury. A loud popping sound followed by severe groin pain and inability to move the limb are common clinical presenting features. Clinical findings

include localized groin tenderness, painful active flexion and forceful extension.

MRI findings include a displaced fracture, soft tissue edema, hemorrhage and retracted rectus femoris muscle.

Learnings/What to Look for

- Diagnosis is usually made on plain x-rays, CT, or MRI
- Plain x-rays and CT reveal a displaced fracture of the anterior inferior iliac spine, with accompanying soft tissue swelling and hemorrhage

Pearls for Urgent Care Management and Considerations for Transfer

- Usual treatment is conservative with rest, analgesia, and physical therapy. Lack of treatment results in chronically painful groin which could be career limiting for the athletes
- Surgical repair/internal fixation is usually reserved for fractures with more than 2 cm separation, failed conservative treatment, and nonunion of fracture and in athletes to facilitate early recovery

Acknowledgment: Images and case provided by Experity Teleradiology (www.experityhealth.com/teleradiology).



A 78-Year-Old with Dizziness and No Chest Pain, Shortness of Breath, or Diaphoresis

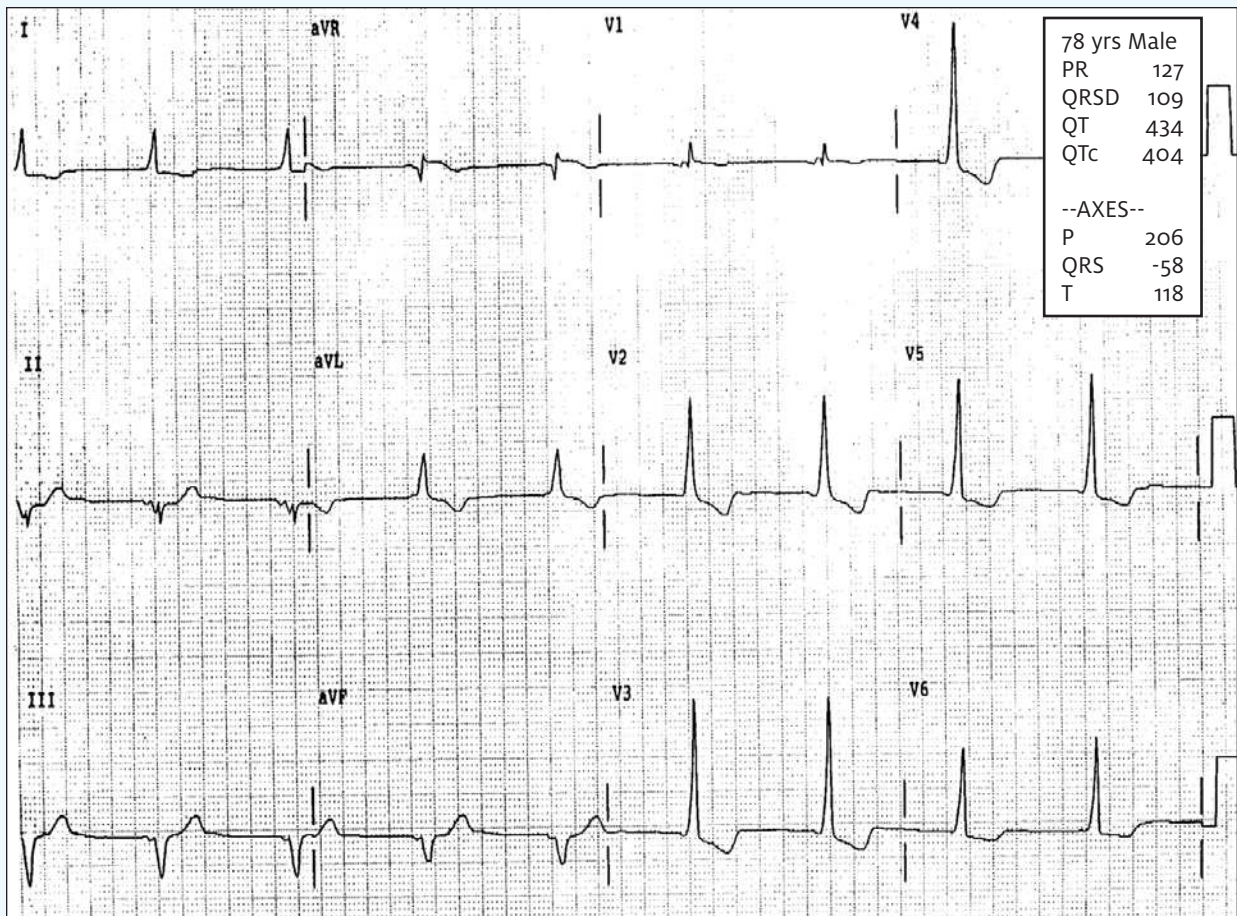


Figure 1.

Case

The patient is a 78-year-old man who says he has felt dizzy for several hours. He denies chest pain, shortness of breath, or diaphoresis.

Upon exam, you find:

- **General:** Alert and oriented; breathing comfortably
- **Lungs:** Clear bilaterally
- **Cardiovascular:** RRR without m/r/g

- **Abdomen:** Soft and nontender, no pulsatile mass
 - **Extremities:** No pain or swelling, pulses normal and equal in all 4 extremities
- Review the ECG and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

THE RESOLUTION

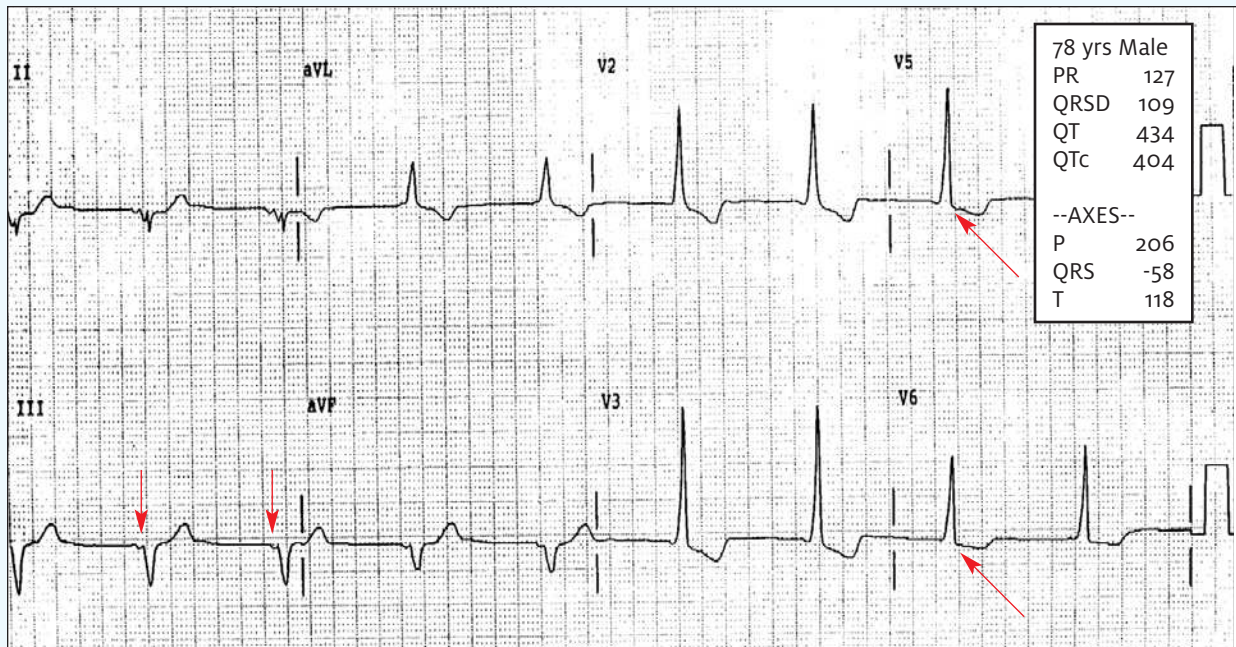


Figure 2.

Differential Diagnosis

- Junctional bradycardia
- Atrial fibrillation
- Bradycardia with Wolff-Parkinson-White syndrome
- Brugada syndrome
- Third-degree heart block

Diagnosis: The patient is experiencing bradycardia with Wolff-Parkinson-White syndrome (WPW).

Though this is a bradycardic rhythm, there is evidence of P waves before the QRS complexes (see downward arrows at lead III), so it is not a junctional bradycardia (no P waves).

The rhythm is regular, and not irregularly irregular as in atrial fibrillation.

Brugada syndrome is important to recognize, as it may degrade into a terminal rhythm; it is diagnosed by the presence of incomplete right bundle branch block and ST elevation in leads V1 and V2, but is not present on this ECG.

Third-degree heart block results in a bradycardic rate, but usually with a rate in the 30s; additionally, in this ECG a P wave precedes the QRS complexes, while in third-degree (complete) heart block there is complete dissociation between the P waves and the QRS complexes.

This ECG shows bradycardia with WPW. Note the short PR interval and the upsloping “delta” waves in the V5 and V6 (upward arrows).

Learnings/What to Look for

- WPW is a supraventricular re-entrant rhythm
- Patients may be asymptomatic, with the WPW being found incidentally, or may include complaints of anxiety, palpitations, dizziness, chest discomfort, or shortness of breath
- ECG findings include a short PR interval, a delta wave (upsloping initial portion of the QRS complex), and a prolonged QRS complex

Pearls for Urgent Care Management and Considerations for Transfer

- Compare to previous ECG if available
- If found incidentally, the patient does not require transfer and outpatient referral is appropriate
- The patient should be transported emergently to the emergency department via EMS if symptomatic with chest discomfort, shortness of breath, tachycardia, hypotension, hypoxemia, or altered mental status
- Note that WPW may occur with atrial fibrillation and reveal an irregular tachycardic rhythm with a wide complex QRS. Do not use calcium channel blockers, adenosine, beta blockers, or digoxin, as these may precipitate ventricular fibrillation and death. WPW may occur with atrial fibrillation is managed medically with procainamide or electrically with cardioversion



A Teenage Girl Who Suddenly Bruises Easily



Case

A 17-year-old girl presents to urgent care complaining of easy bruising, especially on her legs. She couldn't recall having any injuries, even minor bumps, that might have caused the red and purple ecchymoses that had appeared. She insisted no one else had caused her harm. She also complained of headache and nausea. A high school student, she was about to complete her final exams and was concerned she would have bruises on her legs during graduation.

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

THE RESOLUTION

**Differential Diagnosis**

- Cryoglobulinemia
- Autoerythrocyte sensitization
- Vitamin K deficiency
- Ehlers-Danlos syndrome

Diagnosis

The correct diagnosis is autoerythrocyte sensitization, also known as Gardner-Diamond syndrome or psychogenic purpura. This disorder is characterized by bruising without clear precipitating causes or definite trauma.

Learnings/What to Look for

- Autoerythrocyte sensitization has been associated with psychiatric illness, sometimes subtle and without initial obvious symptoms
- Bruises are painful, vary in size, and may have peculiar or geometric shapes

- Associated symptoms include abdominal pain, nausea, vomiting, diarrhea, and headache
- Prodromal symptoms such as pain, warmth, or itching at the site prior to the bruising have been described

Pearls for Urgent Care Management and Considerations for Transfer

- Diagnosis is by history, physical examination, and laboratory tests to rule out bleeding disorders
- Onset may follow a traumatic event or in the context of severe psychosocial stress. Associated psychiatric abnormalities include depression and anxiety, borderline personality disorder, and obsessive-compulsive disorder
- Once other, physical disorders have been ruled out, referral for psychiatric therapy is warranted

Acknowledgment: Images courtesy of VisualDx (www.VisualDx.com/JUCM).