INSIGHTS IN IMAGES

CLINICAL CHALLENGE: CASE 1

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 25-Year-Old Man Who Hit His Finger with a Hammer

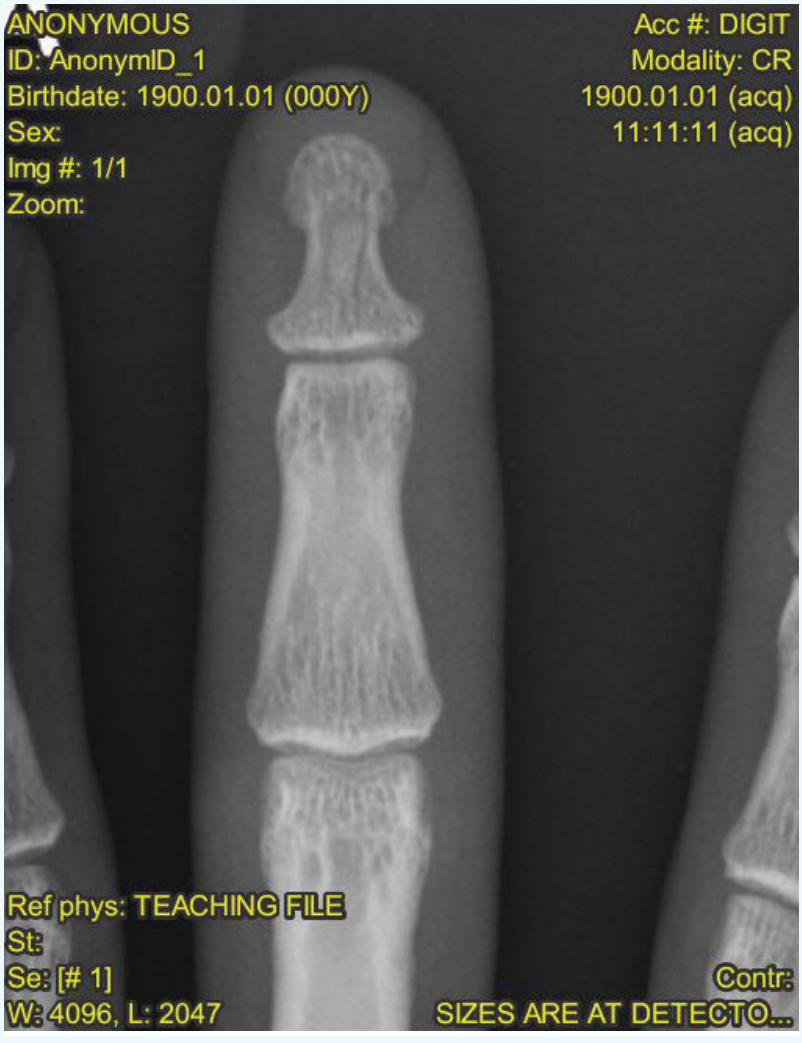

Figure 1.

Case

The patient is a 25-year-old male who presents with pain over the distal phalanx of the middle finger. He says he hit it with a hammer while hanging a picture frame in his new apartment a short while ago. Pain is evident upon palpation over the distal phalanx of the middle finger, but there are no cuts or breaks in the skin. Neurovascular status is intact.

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

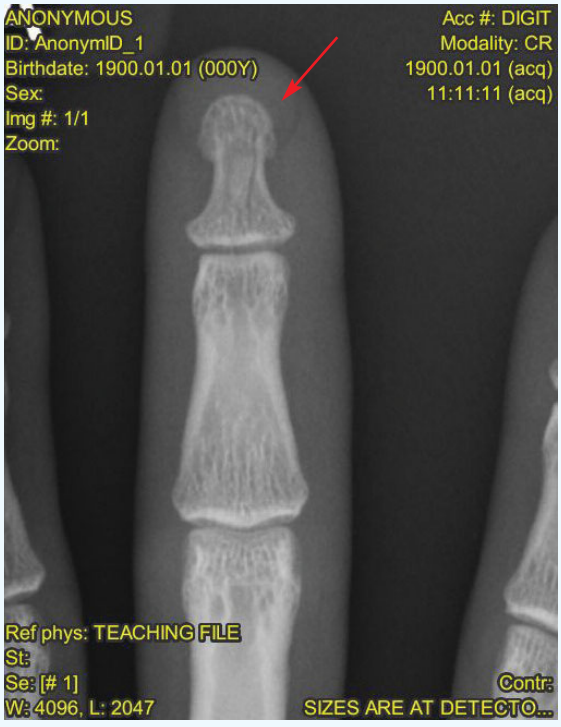

Figure 2.

Differential Diagnosis

- Mallet finger
- Dislocation
- Distal phalanx fracture
- Osteomyelitis
- Osteosarcoma

Diagnosis

The patient has a nondisplaced distal phalangeal fracture. The most telling sign is the subtle vertical lucency within the distal phalanx (see Figure 2).

Learnings

- A minimum of three x-ray views should be obtained; often, as in this case, the fracture will be seen on only one projection
- Consider localized images (such as a dedicated finger x-ray instead of a hand x-ray) to allow for better resolution and magnification
- Evaluate the x-ray for fracture fragments, lucency, disruption of the trabeculations, or a break in the cortex
- Neurovascular status should be established upon initial assessment

Pearls for Initial Management and Considerations for Transfer

- With evidence of an isolated fracture, splinting and outpatient follow-up is appropriate
- Specifically examine and document presence or absence of associated laceration, as this designates an "open fracture." This may not change the urgent care management, but should prompt good cleansing as well as aftercare instructions, including warning of signs of infection and the importance of timely follow-up
- If there is an associated subungual hematoma, consider trephination for drainage. Nail removal is rarely required, even with large subungual hematomas
- Transfer with signs of infection, neurovascular compromise, intractable pain, or diagnostic uncertainty

CLINICAL CHALLENGE: CASE 2

A 42-Year-Old Woman with Anxiety and Palpitations

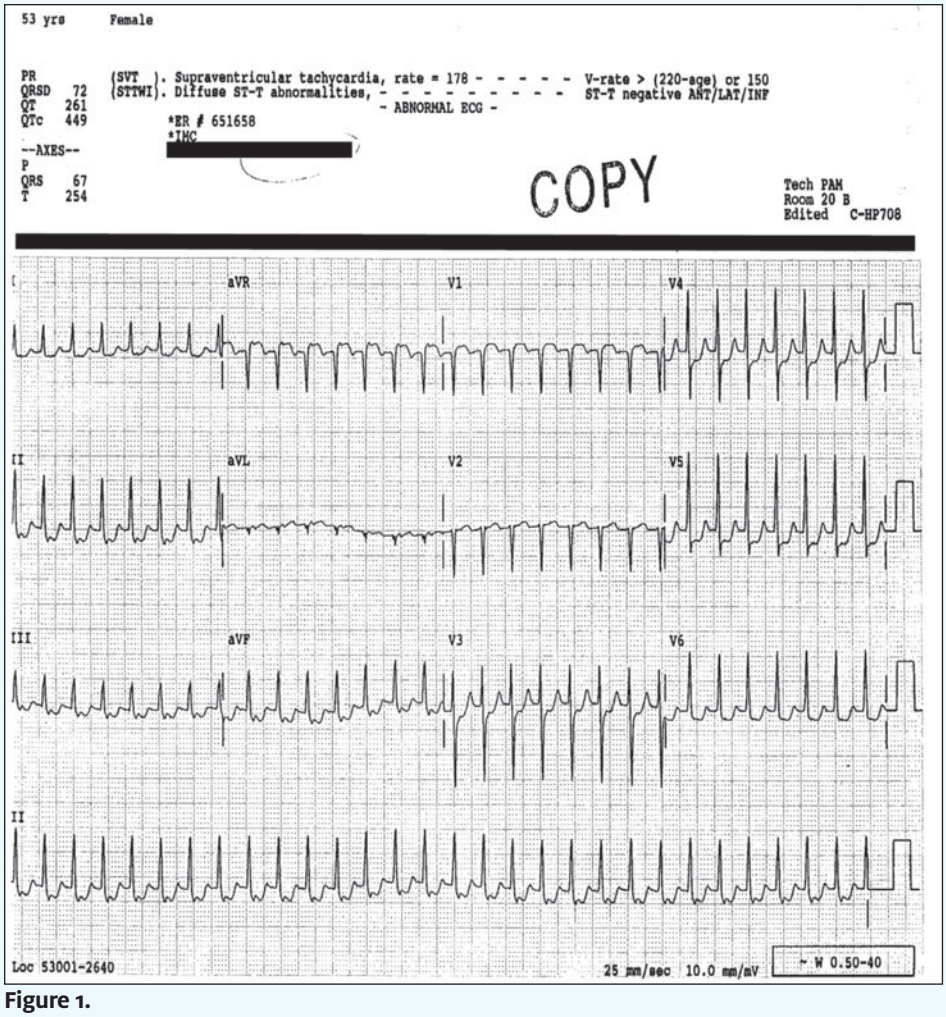

Figure 1.

Case

A 42-year-old woman with a history of anxiety presents, complaining of intermittent palpitations over the past 2 weeks. She says she has not taken any medication and denies chest pain, shortness of breath, diaphoresis, fever, or dizziness.

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

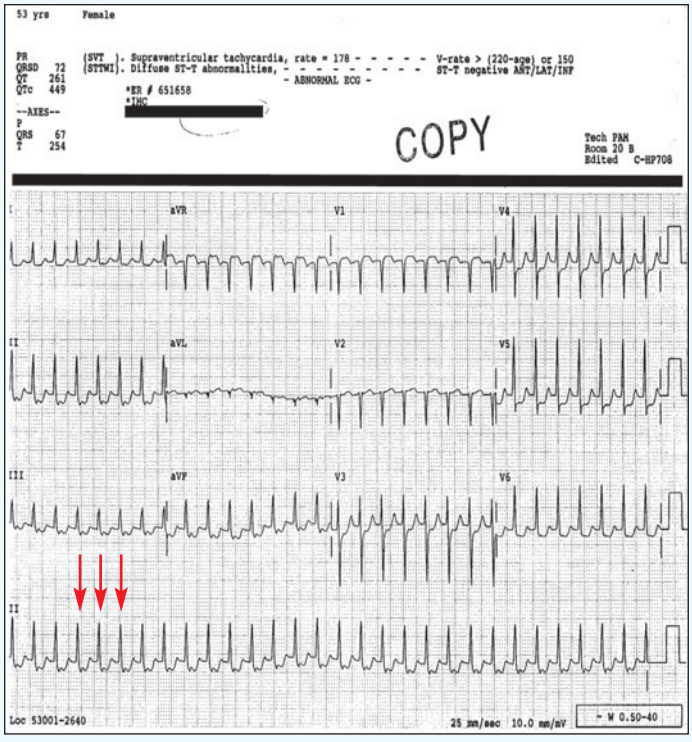

Figure 2.

Differential Diagnosis

- Ventricular tachycardia
- Atrial flutter
- Supraventricular tachycardia
- Atrial fibrillation
- Multifocal atrial tachycardia

Diagnosis

This patient has supraventricular tachycardia (SVT). The ECG reveals a tachycardic rate; the rhythm is regular, excluding atrial fibrillation and multifocal atrial tachycardia. There are no flutter waves, making the diagnosis of atrial flutter unlikely (also, the atrial flutter rate is typically 150). The QRS complexes are narrow, excluding ventricular tachycardia. P waves are not seen. The tracing is most consistent with supraventricular tachycardia. There are some ST depressions which could be a rate related ischemia. These generally resolve with the management of the SVT.

Learnings

- SVT is a regular, narrow complex and tachycardia rhythm
- The mechanism is a re-entrant tachycardia
- Distinguish from atrial fibrillation (irregular, irregular rhythm), atrial flutter (flutter waves and typical rate of 150), ventricular tachycardia (wide complex QRS), and sinus tachycardia (presence of p waves)
- Symptoms may include sensation of palpitations, lightheadedness, shortness of breath, chest pain, or weakness

Pearls for Initial Management and Considerations for Transfer

- Unstable patients displaying hypotension, confusion, diaphoresis, or chest pain should have an IV placed and be put on the monitor (if time allows), then transferred to an emergency department
- Stable patients may attempt the Valsalva maneuver by "bearing down" or postural modification by having the patient Valsalva, then having the clinician perform a passive leg raise
- Emergency department management will initially proceed with adenosine administration, while unstable patients may require cardioversion

CLINICAL CHALLENGE: CASE 3

A 40-Year-Old Woman with Rash, Fever, and Malaise

Figure 1.

Case

A 40-year-old woman visits your urgent care center several days after first noticing a rash of pruritic smooth papules on her trunk and intertriginous areas. She reports that she had been spending a lot of time in the pool with her children before they returned to school. Now she also has a fever and swollen glands, and complains of general malaise.

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

- Allergic contact dermatitis
- Molluscum contagiosum
- *Pseudomonas* folliculitis
- Miliaria rubra

Diagnosis

The image shows evidence of *Pseudomonas* folliculitis, which is backed up by the other findings described. Also known as hot tub folliculitis, this is a subset of folliculitis (inflammation of the hair follicle), wherein hair follicles are infected with *Pseudomonas* bacteria. Outbreaks occur most commonly in people after bathing in a contaminated spa, swimming pool, or hot tub. It can also be associated with the use of contaminated loofah sponges (ie, one that remain constantly wet in the shower) and contaminated water in the workplace. It also can be seen with higher incidence in patients on long-term antibiotic therapy for acne vulgaris.

Learnings

- *Pseudomonas* folliculitis is characterized clinically by tender or pruritic folliculocentric papules preferentially localized to the trunk, buttocks, and extremities
- Typically, symptoms develop within 1-4 days after exposure to the contaminated water source
- Infection can be associated with mild fever, malaise, lymphadenopathy, and leukocytosis. The cutaneous eruption usually fades within 7-14 days without therapy
- Water sources contaminated with *Pseudomonas* are also associated with outbreaks of painful plantar nodules termed the "*Pseudomonas* hot-foot syndrome." These patients may or may not have a concomitant folliculitis.
- There is no geographic distribution of *Pseudomonas* folliculitis. However, with hot tubs and natural hot springs popular among travelers and pyodermas (purulent skin diseases) being among the most frequently reported complaints in returning travelers, probing for such activities may be advisable in patients with similar symptoms ■