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 51-Year-Old Male with a Persistent Cough

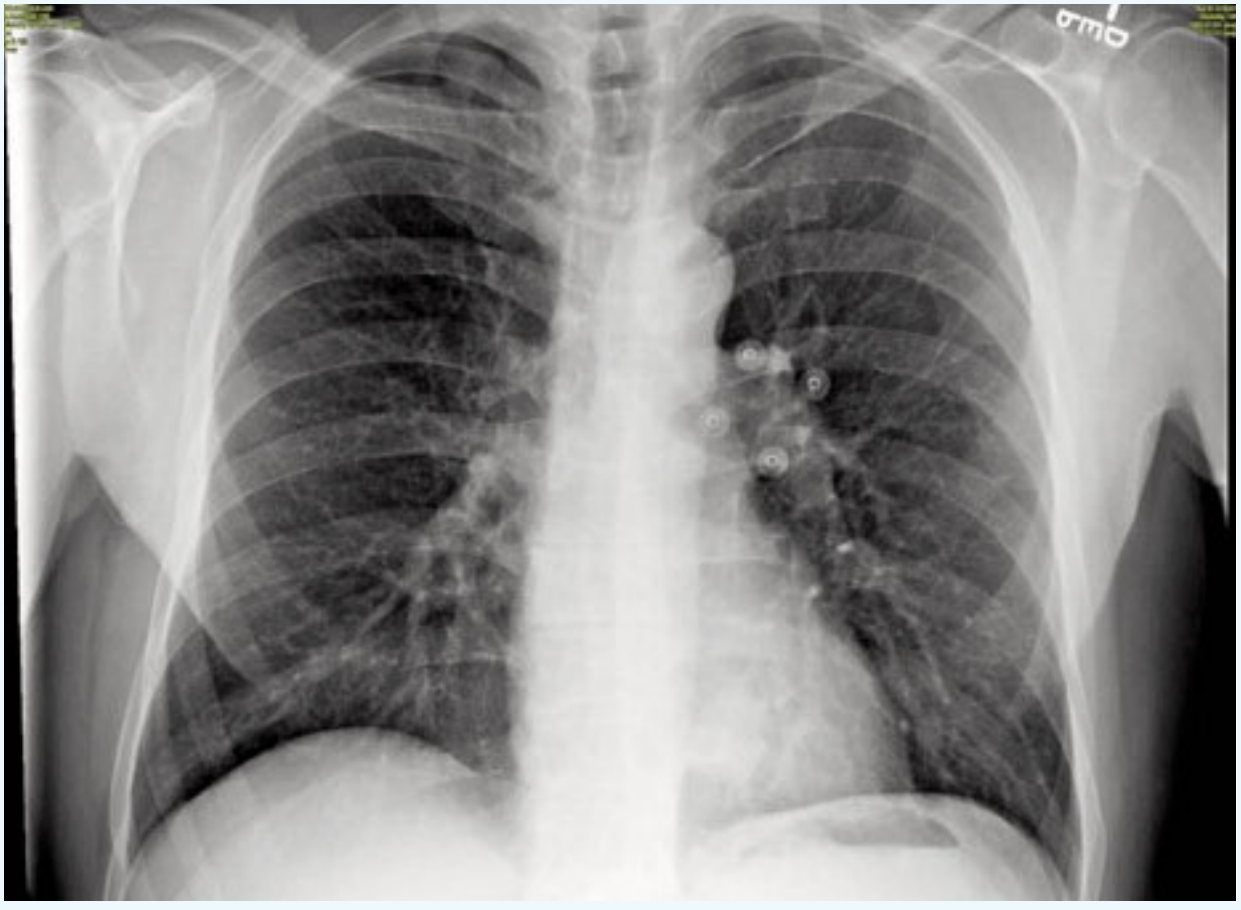


Figure 1.

Case

The patient is a 51-year-old man who presents to urgent care complaining of a persistent cough. He reports it started "about a month ago," but his wife, who is with him, insists it's been at least 6 weeks.

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

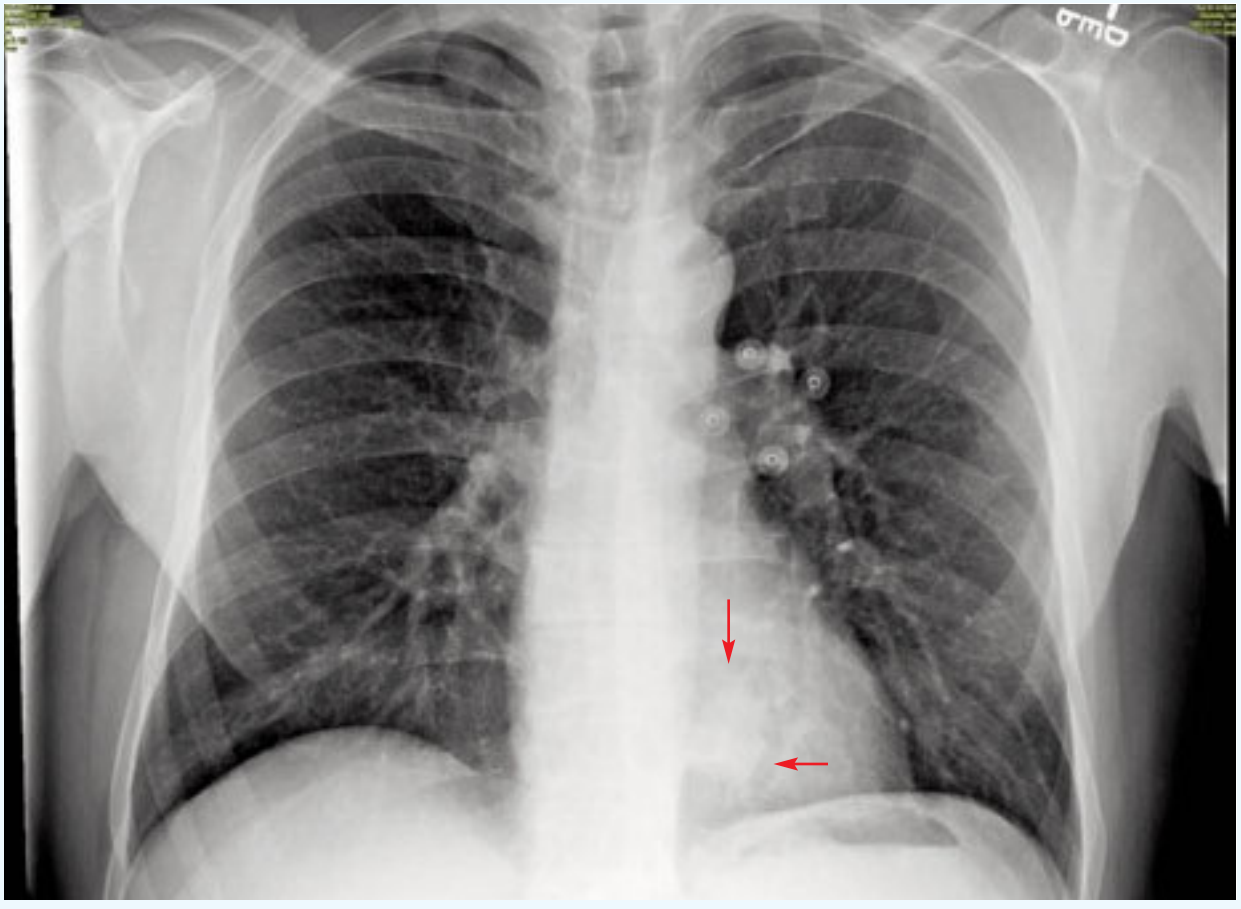


Figure 2.

Differential Diagnosis

- Fungal pneumonia
- Lung abscess
- Lung mass
- Pulmonary pseudotumor

Diagnosis

The x-ray reveals a left lower lobe lung mass; see the oval-shaped density in the medial aspect of the left lower lobe, visible in the retro cardiac region.

Learnings

- Search pattern on chest x-ray should always include the "hidden areas," such as the retro cardiac region, lung apices, and hilar regions
- Any increased density in the retro cardiac region or loss of clearly defined left heart border should raise concern for mass or infiltrate

Pearls for Urgent Care Management and Consideration for Transfer

With this presentation and radiographic findings, the patient needs outpatient referral for advanced imaging and management

CLINICAL CHALLENGE: CASE 2

A 45-Year-Old Woman with Acute Chest Pain

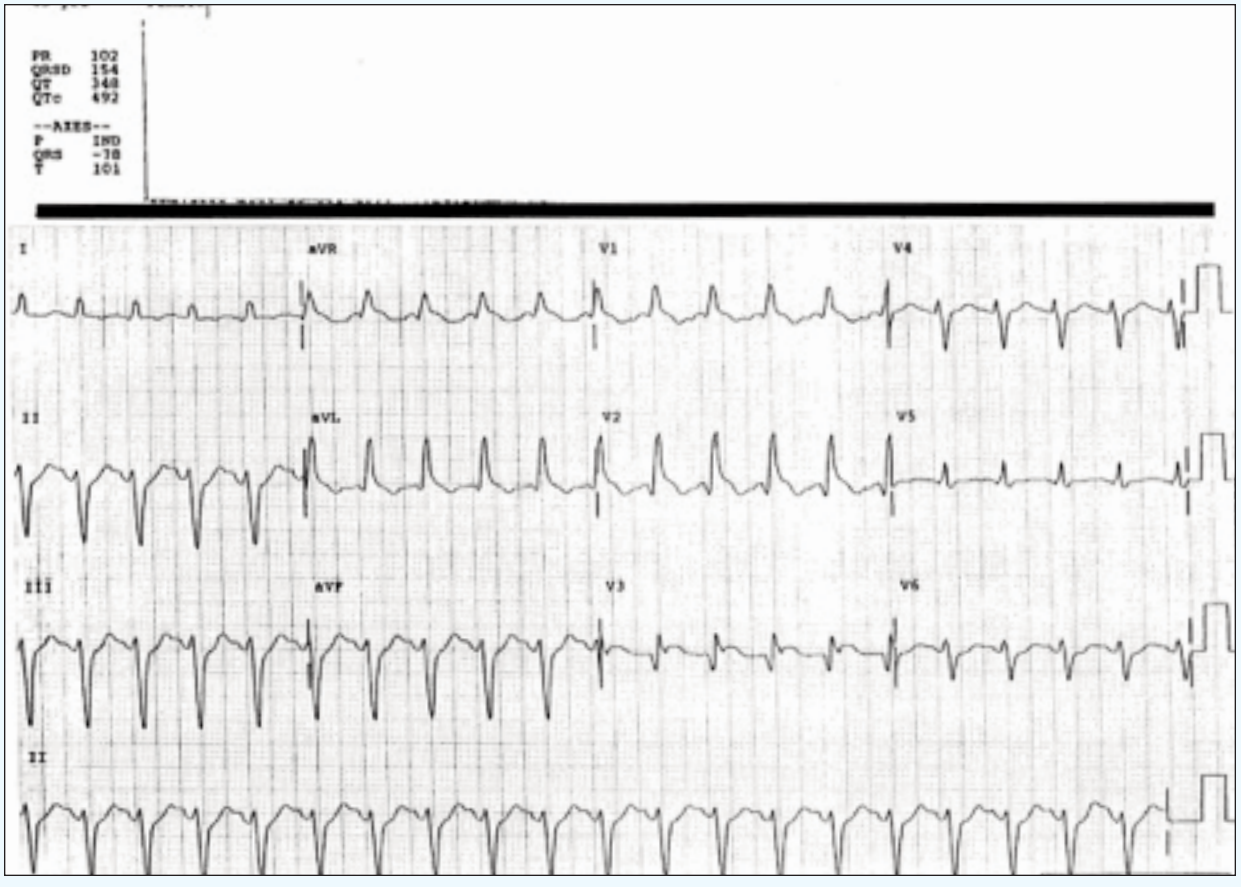


Figure 1.

Case

The patient is a 45-year-old woman who presents after experiencing chest pain for the past 2 hours. She has some minimal dyspnea, but no diaphoresis. She takes birth control pills and is a smoker. She denies family history of cardiac disease.

Upon exam, you find:

General: Alert and oriented

Lungs: CTAB

Cardiovascular: RRR without murmur, rub, or gallop

Abdomen: Soft and NT without r/r/g

Ext: No peripheral edema or calf pain, pulses 2+ and equal in all extremities

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

THE RESOLUTION

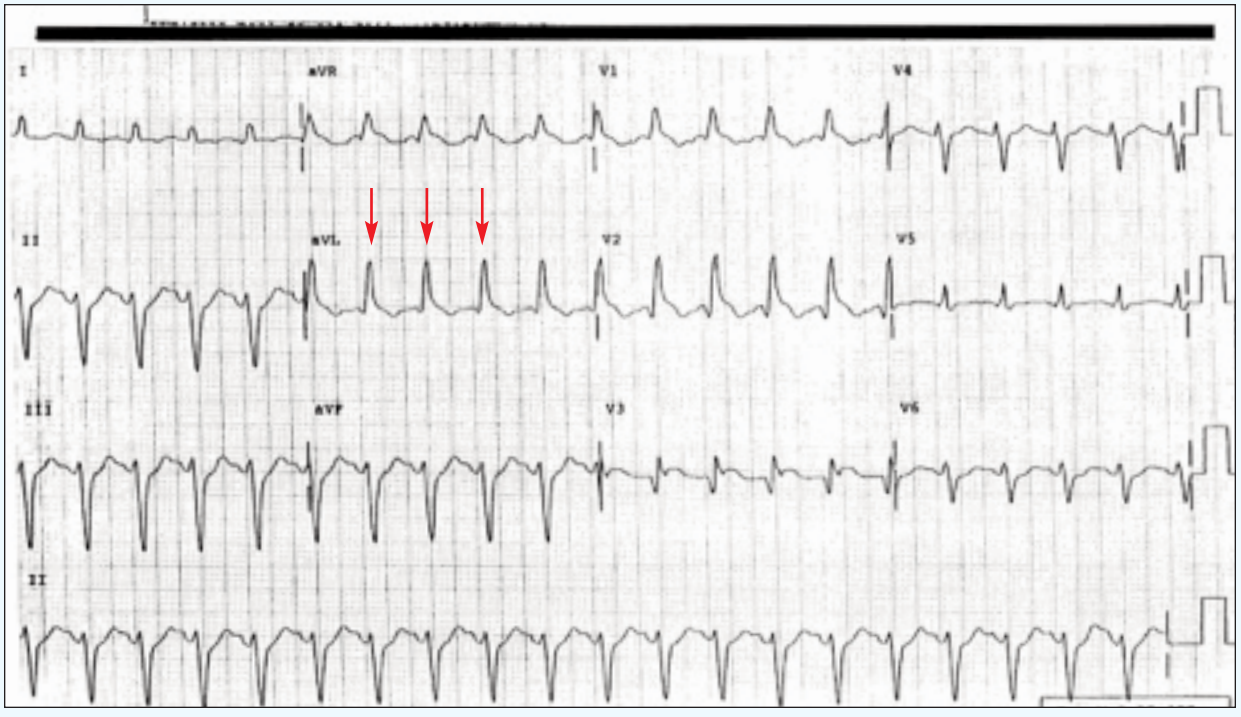


Figure 2.

Differential Diagnosis

- Lateral STEMI
- Wolff-Parkinson-White (WPW)
- Sinus tachycardia
- Brugada syndrome
- First-degree AV block

Diagnosis

- The ECG reveals a sinus tachycardia with a rate of 120
- The QRS is widened, and although a wide complex tachycardia should be evaluated for ventricular tachycardia, there are P waves before each QRS complex, so this is not V tach
- WPW can also cause a wide complex tachycardia with a short PR interval, but would show presence of the "upsloping" delta wave
- Brugada is an incomplete RBBB with ST elevation seen in leads V1 and 2, not present on this ECG. Normal PR interval is 0.12-0.20 and is not prolonged
- Other aspects of the ECG include bifascicular block as well as q waves anteriorly, likely indicating an old anterior MI
- There is ST elevation in leads V2 and V3; comparison to a previous ECG will help to determine if this is acute from a STEMI or chronic

Learnings/What to Look for

- Normal heart rate is 60-100 beats per minute
- Unexplained tachycardia, even in well-appearing patients, may indicate a more serious underlying process such as ischemia, myocarditis, aortic dissection, pneumothorax, pericardial tamponade, bleeding, or sepsis
- If the q waves and BBB are present on a previous ECG, this will help with the disposition decision by decreasing our concern; however, the tachycardia remains troubling for serious underlying pathology
- A smoker on oral contraceptive therapy over the age of 35 is at high risk for a thrombotic event such as pulmonary embolism (PE) or acute coronary syndrome (ACS)

Pearls for Initial Management and Considerations for Transfer

- A chief complaint of chest pain should prompt consideration of ACS, PE, and aortic dissection. Stratify risk based on the history of present illness and risk factors
- The presence of q waves in the above ECG is concerning for a previous MI. Though not 100% diagnostic, in the context of this presentation this should prompt consideration for emergent transfer
- Ongoing chest pain with an HPI concerning for ACS or PE should prompt emergent transfer, regardless of the ECG findings

CLINICAL CHALLENGE: CASE 3

A 40-Year-Old Veterinarian with Scaly Lesions

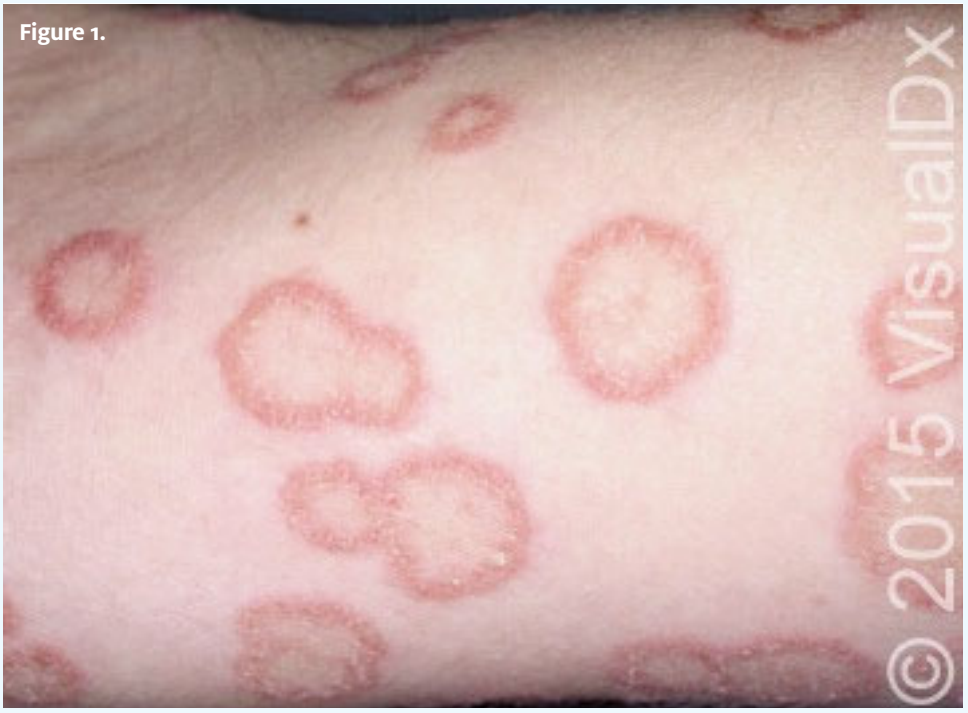


Figure 1.

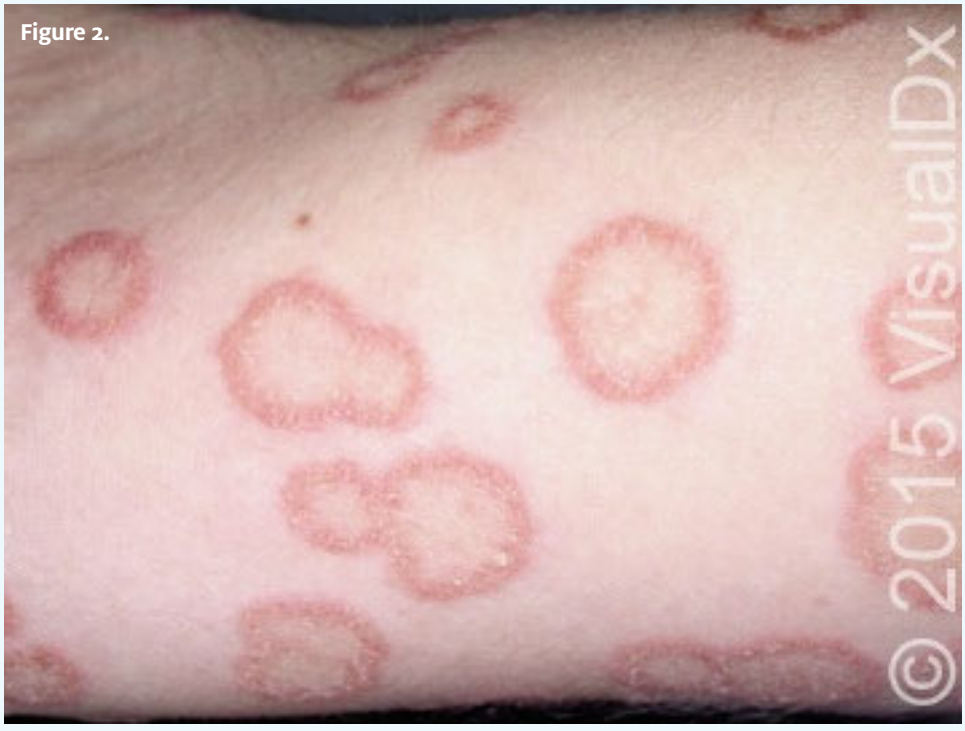
Case

The patient is a 40-year-old man who presents with annular, scaly lesions on his arm which appeared over the past week. The patient is a veterinarian, and was diagnosed with type 2 diabetes last year.

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

- Granuloma annulare
- Nummular dermatitis
- Psoriasis
- Tinea corporis

Diagnosis

This patient was diagnosed with tinea corporis—sometimes termed "ring worm." It represents a skin infection by a dermatophyte species of fungus (either *Trichophyton*, *Microsporum*, or *Epidermophyton*).

Learnings

- Fungal organisms are transmitted to humans by direct contact with animals (which likely occurred in this case) or other people, or through fomites
- Tinea corporis usually appears as annular, erythematous, scaling plaques
- Infection may be pruritic or asymptomatic
- Disseminated tinea corporis may be seen in patients with diabetes, Cushing syndrome, malignancy, old age, or who are immunocompromised

Pearls for Urgent Care Management and Considerations for Transfer

- Treatment is tailored toward the fungal infection, underlying predisposing factors, and keeping the intertriginous areas as dry as possible
- Initial treatment could be a 7–14-day course of a topical antifungal cream, such as miconazole or clotrimazole
- Resistant cases may require oral antifungal agents, such as ketoconazole 22 mg/day or fluconazole 100 mg/day for 4–6 weeks
- Drying agents, such as cornstarch, talcum powder, or antifungal powders may be helpful in minimizing skin fold moisture