INSIGHTS IN IMAGES

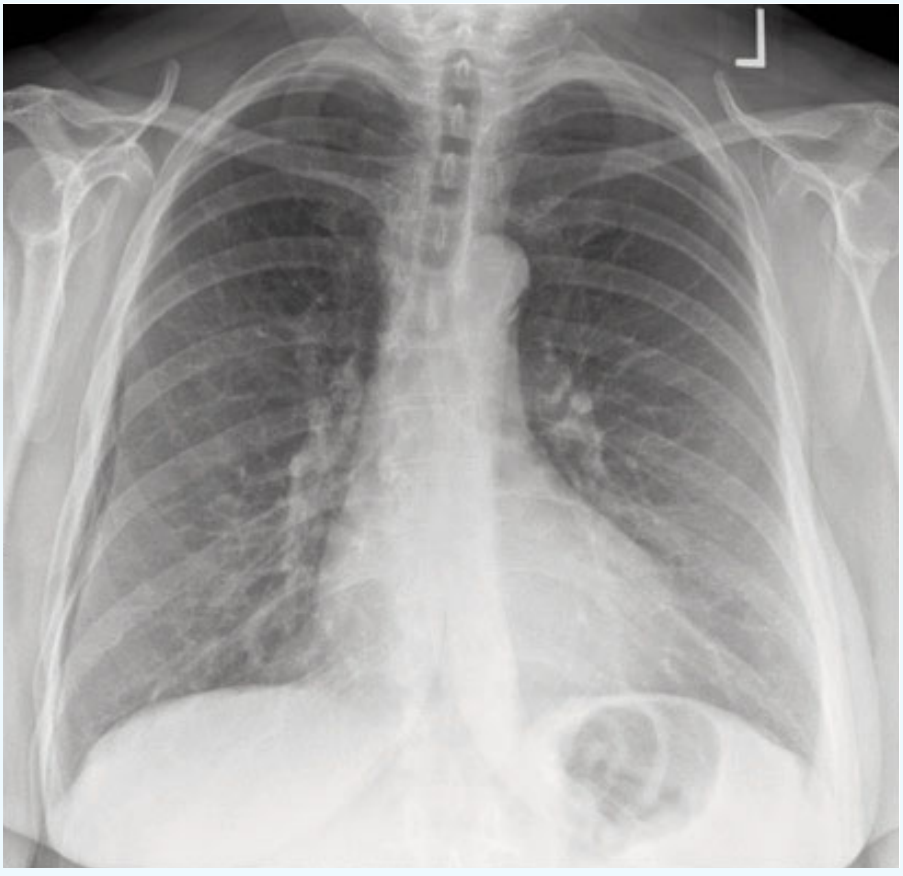
CLINICAL CHALLENGE: CASE 1

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 57-Year-OId Man with Rib Pain with Deep Breathing

Figure 1.



Case

The patient is a 57-year-old man who reports to urgent care complaining of right-sided pain in his ribs when taking deep breaths. He reports that he worked out at his health club that morning before work, but denies any pain at the time or potential cause of injury related to that. Rather, he said the pain began suddenly a couple of hours later while he was at work.

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

THE RESOLUTION

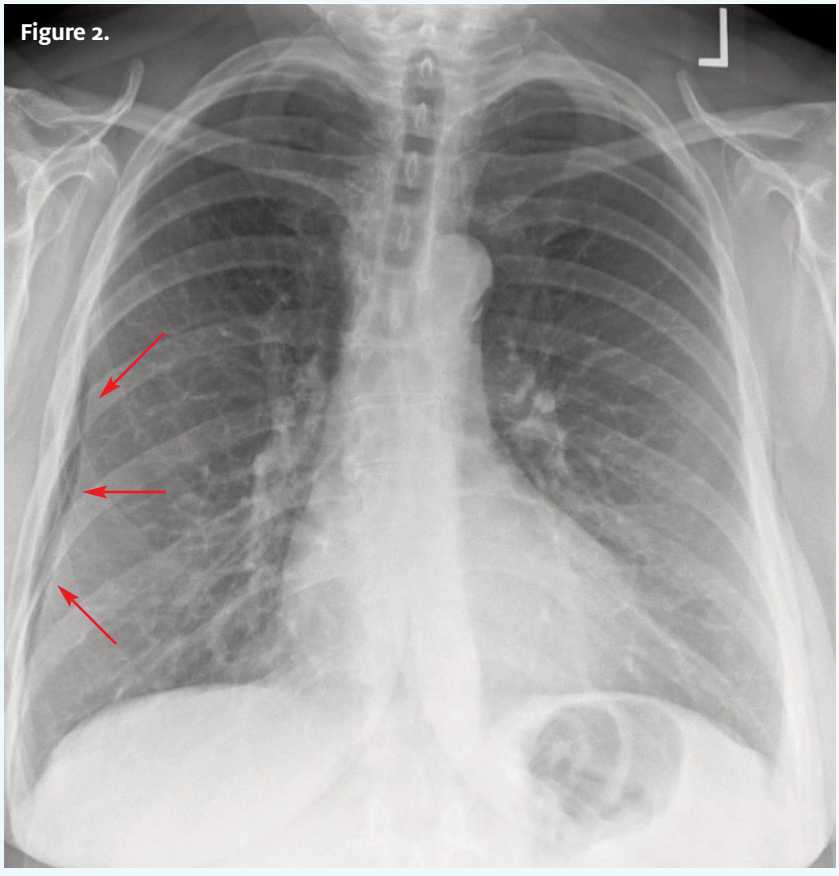


Figure 1.

Differential Diagnosis

- Pneumothorax
- Skin fold
- Rib fracture
- Sternal fracture

Diagnosis

The initial x-ray demonstrates vertical lucency in the right lateral chest—possibly indicative of pneumothorax or skin fold. Skin fold is favored as air does not extend to the apex. The second image, with the arms pulled away, shows resolution of a finding consistent with skin fold.

Learnings/What to Look for

- The radiographic appearance of pneumothorax depends primarily on the positioning of the body
- Pneumothorax shows conformity of linear shadows with visceral pleural anatomy; skin folds do not
- Typically, skin folds do not demonstrate lateral lucency, but there is a pitfall—perception of relative lucency lateral to the added density of the skin fold due to Mach effect

Pearls for Urgent Care Management and Considerations for Transfer

- Short-term use of a topical steroid will reduce inflammation in the area
- If the area is infected, an antifungal agent may be necessary
- Patient education should focus on preventing future incidence and include recommendations to avoid tight-fitting clothing; keeping skin as dry and cool as possible; and drying thoroughly after bathing or swimming before getting dressed
  - Female patients should be advised to ensure brassieres have adequate support

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

CLINICAL CHALLENGE: CASE 2

A 65-Year-Old Man with Epigastric Pain, Dyspnea, and a 'Clammy' Feeling

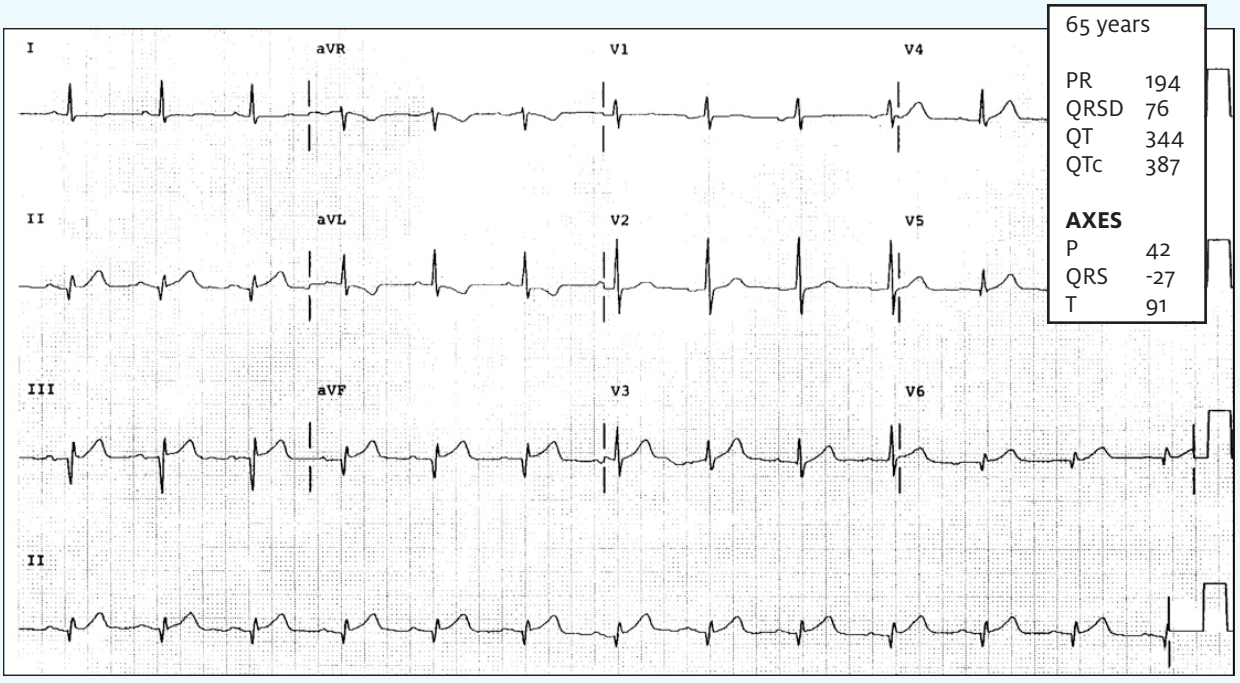


Figure 1.

Case

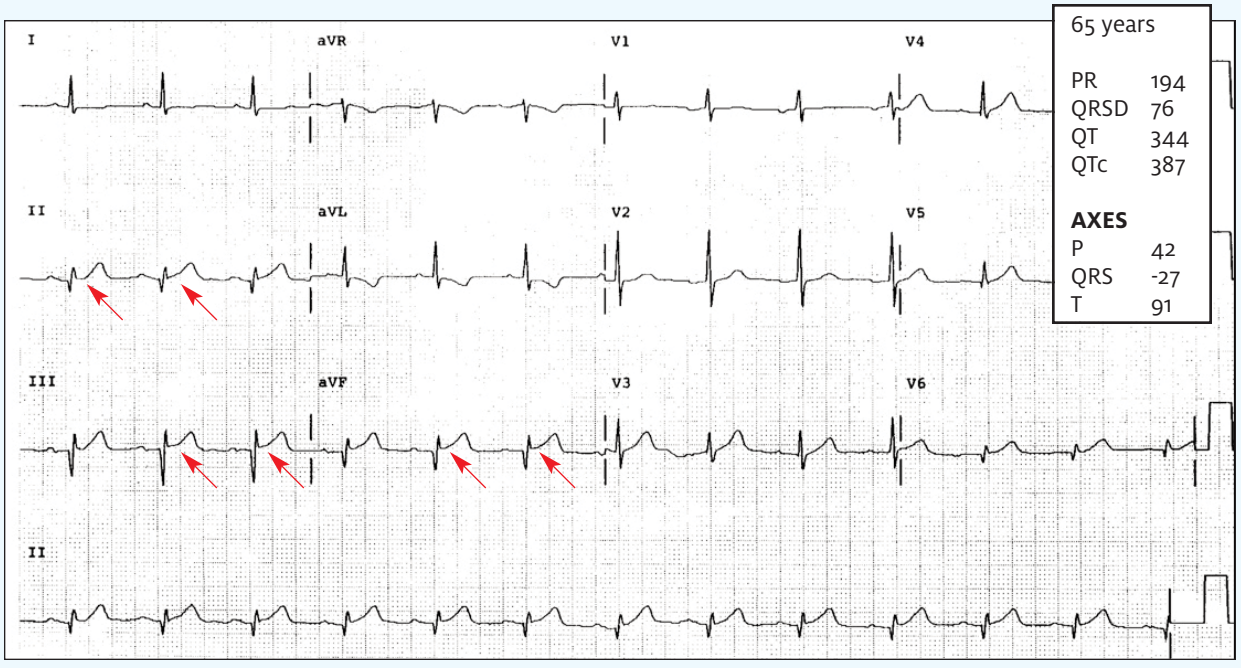
The patient is a 65-year-old man with symptoms of epigastric pain over the last 2 hours, with some dyspnea and a "clammy feeling." He has a history of GERD and has used both an oral antacid and omeprazole within the past hours without relief.

Upon exam, you find:

- **General:** Alert and oriented. Skin cool and moist
- **Lungs:** CTAB
- **Cardiovascular:** Regular rate and rhythm without f/r/g
- **Abdomen:** Soft and nontender without rigidity, rebound, or guarding. No epigastric pain with palpation
- **Ext:** No pain or swelling of the LE, pulses equal

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

THE RESOLUTION



Differential Diagnosis

- First-degree AV block
- Supraventricular tachycardia
- Inferior lateral STEMI
- Wolff-Parkinson-White syndrome
- Brugada syndrome

Diagnosis

This patient was diagnosed with inferior lateral STEMI.

The normal PR interval is 120 to 200 ms; this PR interval is 194, so it would not be first-degree AV block.

Supraventricular tachycardia is a narrow complex tachycardia with a heart rate over 100 bpm; the rate here is 76, so this is not SVT.

Wolff-Parkinson-White would have three findings including a widened QRS (>120ms), short PR (<120ms), and a Delta wave; none of these findings are present.

Brugada syndrome is diagnosed when leads V1 and V2 show ST elevation with an R R' phenomena. This is not present, either.

This ECG *does* show ST elevation in the interior leads, which are leads II, III, and aVF, as well as showing elevation in some of the lateral leads, namely V5 and V6. This is an acute inferior lateral STEMI.

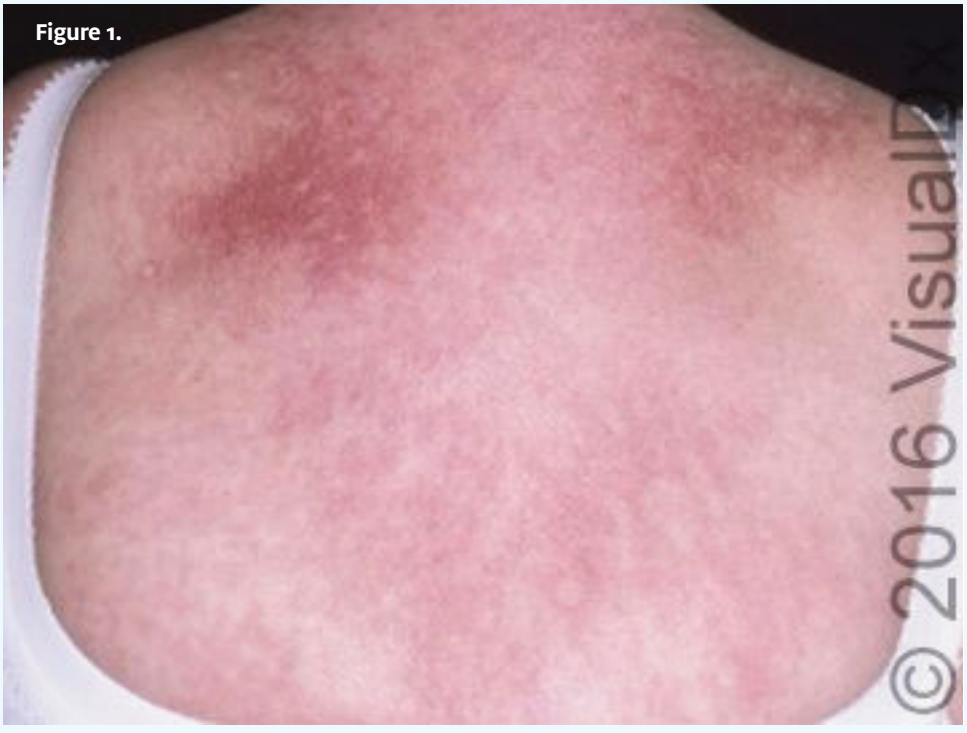
Learnings/What to Look for:

- Symptoms predictive of myocardial infarction often include
  - Exertional chest pain
  - Diaphoresis
  - Dyspnea
  - Pain similar to symptoms present during a past MI
  - Atypical symptoms may include fatigue, confusion, or neck/arm/jaw pain
- Diabetic patients, the elderly, and women may present atypically
- This patient initially attributed his symptoms to heartburn, a common occurrence with inferior MI
- Inferior STEMIs are typically due to an occlusion in the right coronary artery (RCA)

Pearls for Urgent Care Management and Considerations for Transfer

- All patients with STEMI require emergent transfer to the emergency department via EMS
- Acute inferior lateral STEMIs are high risk, as the occluded vessel may also result in infarction of the right ventricle and resultant hypotension. Place two large-bore IVs while waiting for EMS to arrive
- Do not administer SL NTG to patients with an inferior STEMI, as this may result in severe hypotension
- Consider oxygen if hypoxemic and place on a cardiac monitor while awaiting transport
- Have patient chew an aspirin 81-325 mg while awaiting transport

A 51-Year-Old Woman with Multiple Dermatological Symptoms and Muscle Weakness



Case

The patient is a 51-year-old woman who presented to urgent care complaining of a rash, pruritus, myalgias, and muscle weakness. The rash was an erythematous blanching patch spread across her chest in a V shape. She had also noticed that her fingernail folds were red and swollen.

The patient can't recall when she first noticed her symptoms, but reports that they've started affecting her everyday life (such as having difficulty rising from a chair) within "the past couple of weeks."

View the image taken and consider what your diagnosis and next steps would be.

THE RESOLUTION

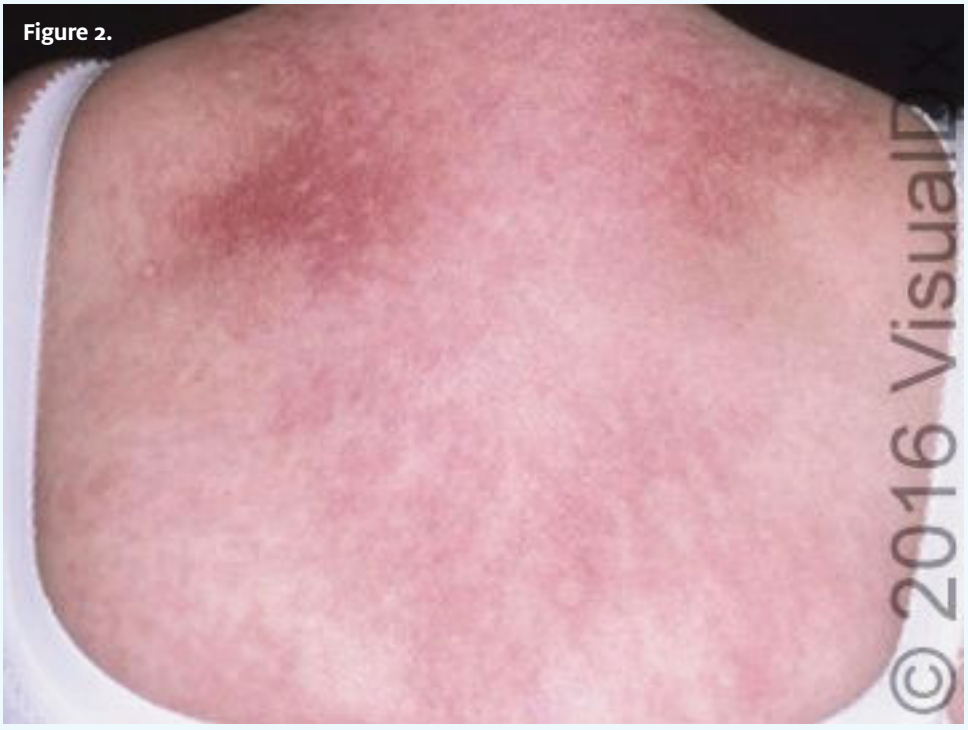


Figure 2.

Differential Diagnosis

- Systemic lupus erythematosus
- Polymorphous light eruption
- Allergic contact dermatitis
- Dermatomyositis

Diagnosis

This patient was diagnosed with dermatomyositis, a multisystem autoimmune connective tissue disease characterized most often by a symmetrical proximal extensor inflammatory myopathy; a characteristic violaceous cutaneous eruption; and pathogenic circulating antibodies.

Diagnosis is made through blood tests showing elevated levels of muscle enzymes. Further testing includes lung x-rays; electromyography; MRI; and skin or muscle biopsy.

Learnings/What to Look for

- While the etiology is unclear, some evidence suggests that genetically susceptible individuals with certain HLA types mount aberrant cellular and humoral responses after exposure to infection, malignancy, or drug ingestion
- Clinical features of dermatomyositis can be categorized into cutaneous and systemic manifestations
- Typical findings include a heliotrope rash, atrophic dermal papules of dermatomyositis (ADPDM, also known previously as Gottron's papules), shawl sign, holster sign, photosensitivity, flagellate erythema, poikiloderma, calcinosis cutis and nail fold changes. Pruritus is also common
- Systemic manifestations of dermatomyositis include fatigue, malaise, and myalgias, as well as various musculoskeletal, gastrointestinal, pulmonary, and cardiological complaints
- Up to 40% of patients with adult dermatomyositis may have an occult malignancy

Pearls for Urgent Care Management and Considerations for Transfer

- Treatment of dermatomyositis includes corticosteroids for the muscular component and avoiding exposure to the sun
- Immunomodulatory medications such as methotrexate, mycophenolate mofetil, or intravenous immunoglobulin may be used
- Refer to a rheumatologist

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