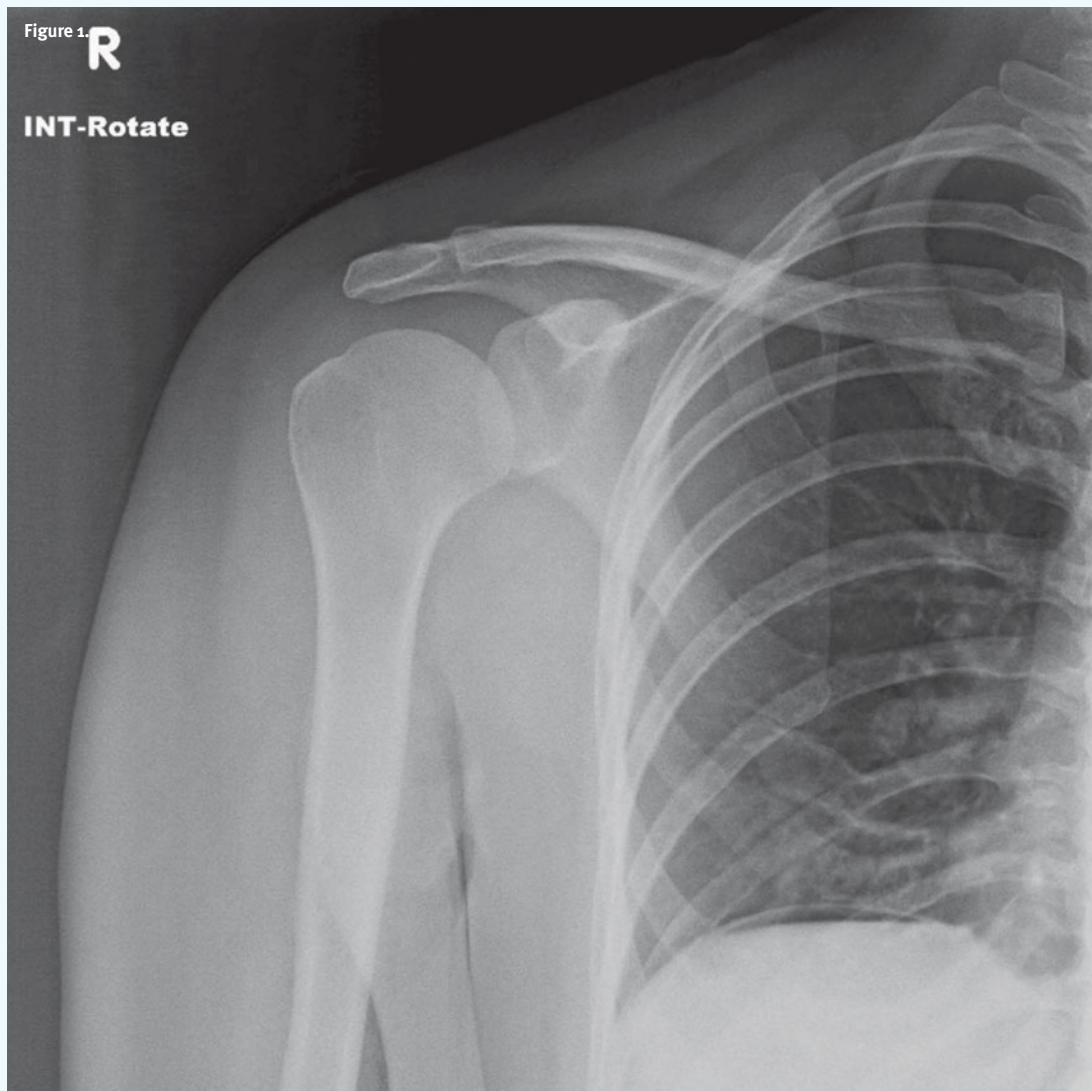




In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of conditions that real urgent care patients have presented with.

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

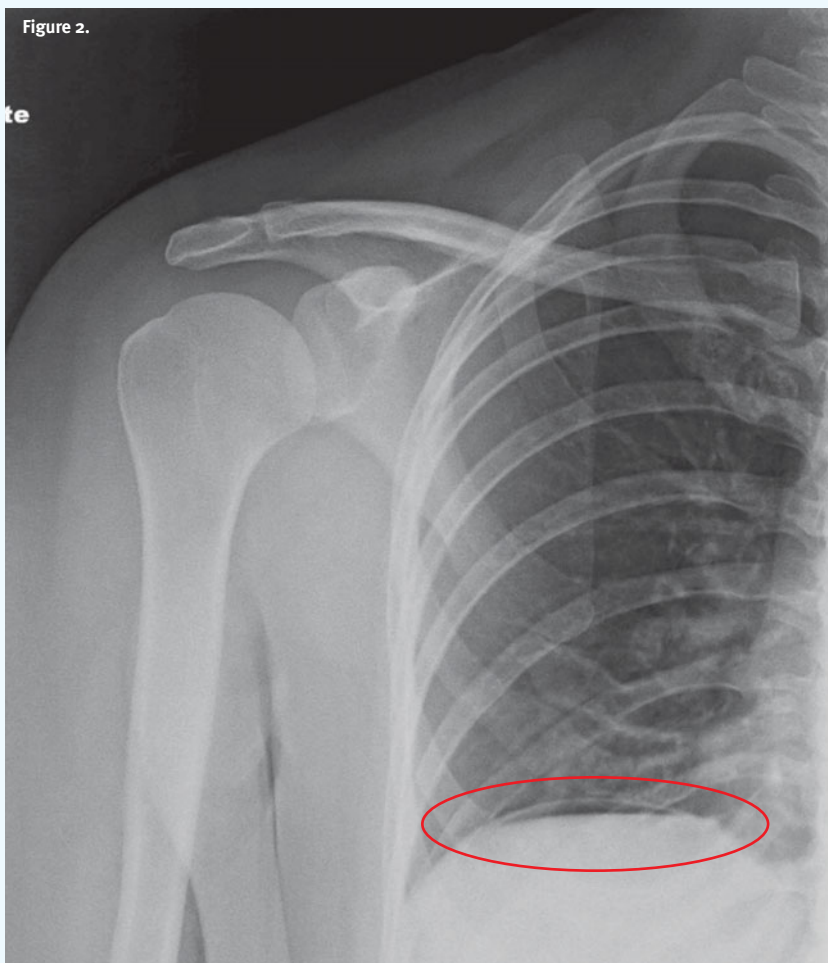
25 Year Old With Shoulder Pain



A 25-year-old male presents to urgent care with ongoing pain in his right shoulder. He denies trauma and reports the pain is deep within the shoulder joint itself.

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

Figure 2.

**Differential Diagnosis**

- Glenohumeral joint osteoarthritis
- Acromioclavicular joint separation
- Pneumothorax
- Pneumoperitoneum

Diagnosis

The correct diagnosis is pneumoperitoneum as the imaging reveals air under the right hemidiaphragm. Although musculoskeletal causes of shoulder pain are common, other non-orthopedic causes should be in the differential, including gastrointestinal, cardiopulmonary, and neurologic sources.

What to Look For

- Free air under the diaphragm on upright chest or abdominal x-ray
- Pneumomediastinum, pleural effusion, pneumothorax and subcutaneous emphysema may also occasionally be seen on x-ray
- Patient may present with abdominal and/or chest pain along with shoulder pain

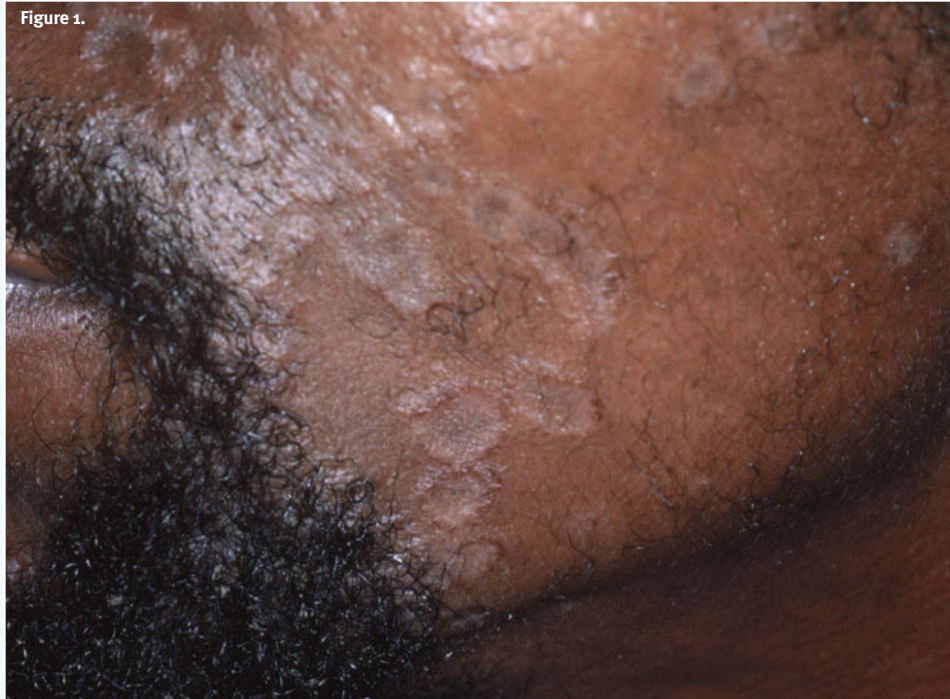
Pearls for Urgent Care Management

- If no recent trauma, pneumoperitoneum is usually the result of a gastrointestinal tract perforation
- This requires immediate transfer to the emergency department for further evaluation and management
- Fluid resuscitation is the initial treatment

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



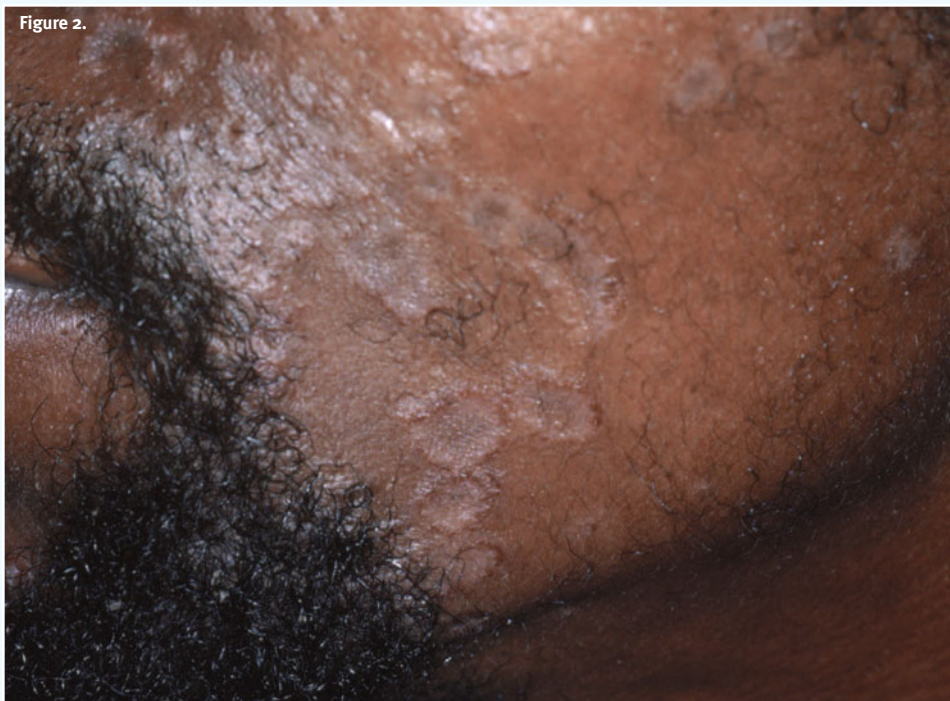
51 Year Old With Asymptomatic Rash



A 51-year-old man presents to urgent care concerned about an asymptomatic rash that developed over his face within the last month. On examination, pink and violaceous, annular, scaly papules, and plaques were seen on his cheeks and within his beard area and nasolabial folds. The patient appeared well and reported no systemic symptoms.

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

Figure 2.

**Differential Diagnosis**

- Erythrasma
- Granuloma annulare
- Nummular dermatitis
- Seborrheic dermatitis

Diagnosis

This patient was diagnosed with seborrheic dermatitis. Seborrheic dermatitis is a common inflammatory papulosquamous condition that affects the sebum-rich areas of the body, including the face, scalp, neck, upper chest, and back. Up to 5% of adults are affected by seborrheic dermatitis, and the condition is particularly common after the fifth or sixth decades. Clinical presentations of seborrheic dermatitis vary, ranging from simple dandruff to fulminant rash.

What to Look For

- Lesions may look pink or red, ashy gray, or darker than normal skin depending on a person's skin color
- Lesions may also have dryness, pruritus, and fine, greasy scaling
- Characteristic sites include the scalp, eyebrows, glabella, nasolabial folds, the beard area, upper chest, external ear canal, posterior ears, eyelid margins, and intertriginous areas

Pearls for Urgent Care Management

- Treatment may include corticosteroids (low potency for the face), anti-fungals, or a combination of both
- Seborrheic dermatitis tends to be a chronic condition, and remissions and exacerbations are expected
- Intermittent treatment may be helpful for chronic state
- Seborrheic dermatitis is often better in summer months and worse in the winter

Acknowledgment: Image and case presented by VisualDx (www.VisualDx.com/jucm).



64 Year Old With Dyspnea and History of COPD

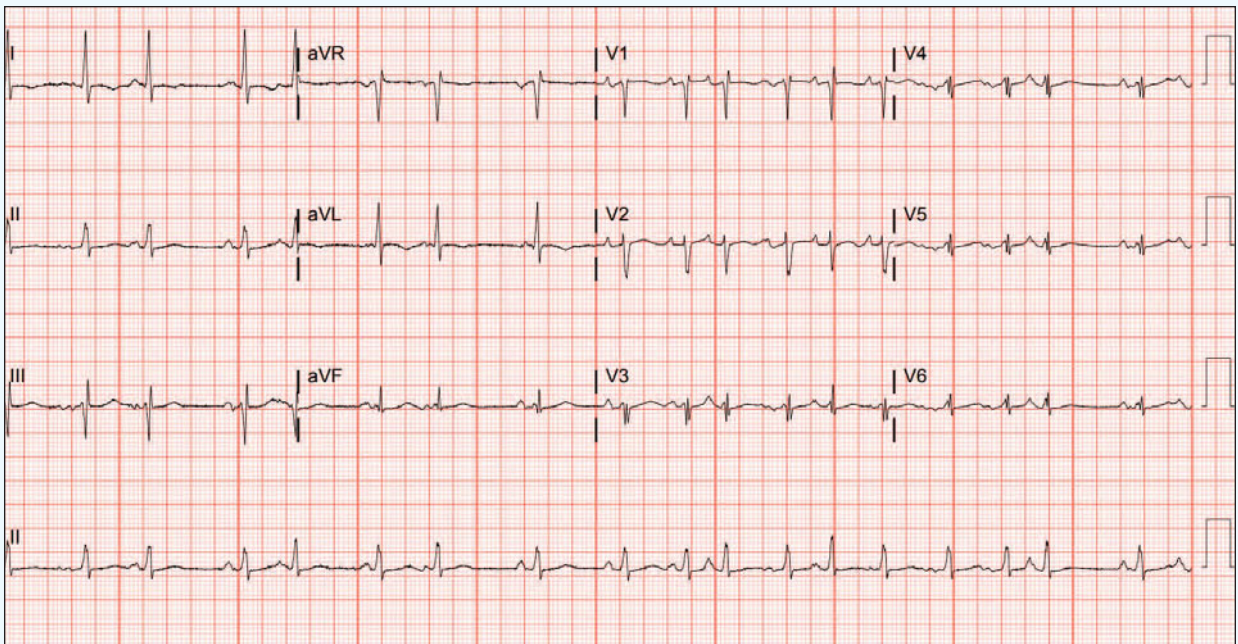


Figure 1: Initial ECG

A 64-year-old female presents in the urgent care complaining of dyspnea for the past 3 days. After asking a few questions, you learn the woman has a history of chronic obstructive pulmonary disease (COPD).

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

Case presented by Jonathan Giordano, DO



Figure 2: Multifocal atrial tachycardia. Note 6 distinct P wave morphologies (numbered) in the lead II rhythm strip as well as the variable P-P intervals.

Differential Diagnosis

- Sinus tachycardia
- Atrial fibrillation
- Multifocal atrial tachycardia (MAT)
- Atrial flutter with variable atrioventricular (AV) conduction
- Hyperkalemia

Diagnosis

The diagnosis is multifocal atrial tachycardia (MAT). The ECG reveals an irregular, narrow complex rhythm with a ventricular rate of 108 beats per minute. There are at least 3 different P-wave morphologies with variable P-P intervals. This constellation of findings is consistent with multifocal atrial tachycardia. There is also low voltage present, likely secondary to increased impedance from hyperinflated lungs.

MAT is an irregularly irregular rhythm, typically between 100-150 beats per minute, that arises from multiple ectopic foci within the atria. It is most often seen in patients with advanced lung disease, such as COPD. MAT is defined by a rate >100 beats per minute with at least 3 morphologically distinct atrial complexes, varying P-P intervals, and an isoelectric baseline between P waves.¹

The mechanism is not completely understood but is believed to be caused by either re-entrant centers, increased atrial automaticity, or triggered centers, and is often associated with respiratory failure. Underlying hypoxia or hypercarbia, right atrial dilation, and increased sympathetic drive are typical physiologic stressors contributing to development of MAT in respiratory failure. Additionally, medications such as beta agonists or theophylline may contribute to development of MAT.¹

Clinicians should focus on treatment of the underlying cause. Unfortunately, the development of MAT during an acute illness/exacerbation should be viewed as a poor prognostic indicator, with a significant in-hospital mortality associated during acute illness.¹

Other diagnoses to consider with an irregularly irregular rhythm include atrial fibrillation and atrial flutter with variable conduction. With atrial fibrillation, there should be no discernible P waves, and with atrial flutter, “sawtooth” P waves are often visualized (especially in the inferior leads).

What to Look For

- The differential for an irregularly irregular rhythm should focus on atrial fibrillation, atrial flutter with variable atrioventricular block, and MAT.
- MAT is defined by a rate >100 beats per minute with at least 3 morphologically distinct atrial complexes, varying P-P intervals, and an isoelectric baseline between P waves.

Pearls for Management; Considerations for Transfer

- Management should focus on treatment of the underlying cause and not to control the rate.
- Differentiating between other causes of irregularly irregular rhythms is important as therapeutic approaches vary.
- MAT is associated with a poor prognosis when associated with an acute illness. Transfer to a higher level of care should be initiated early.

References

1. Surawicz B, Knilans TK. *Chou's Electrocardiography in Clinical Practice*. 6th ed. Elsevier; 2008.

Case courtesy of ECG Stampede (www.ecgstampede.com).

ECG STAMPEDE