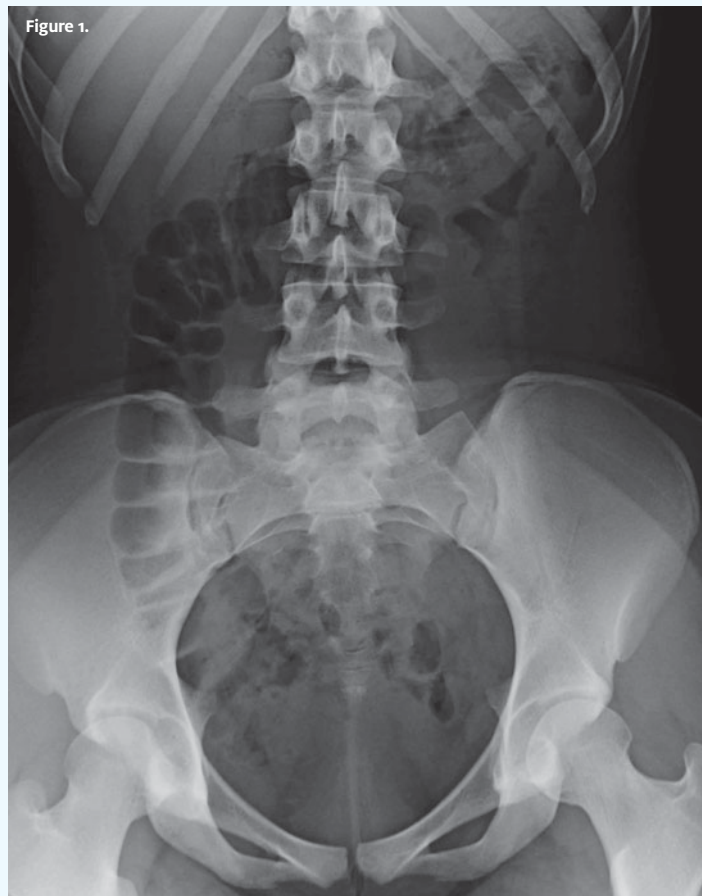




In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of conditions that real urgent care patients have presented with.

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

An 18-Year-Old with Diffuse Abdominal Pain

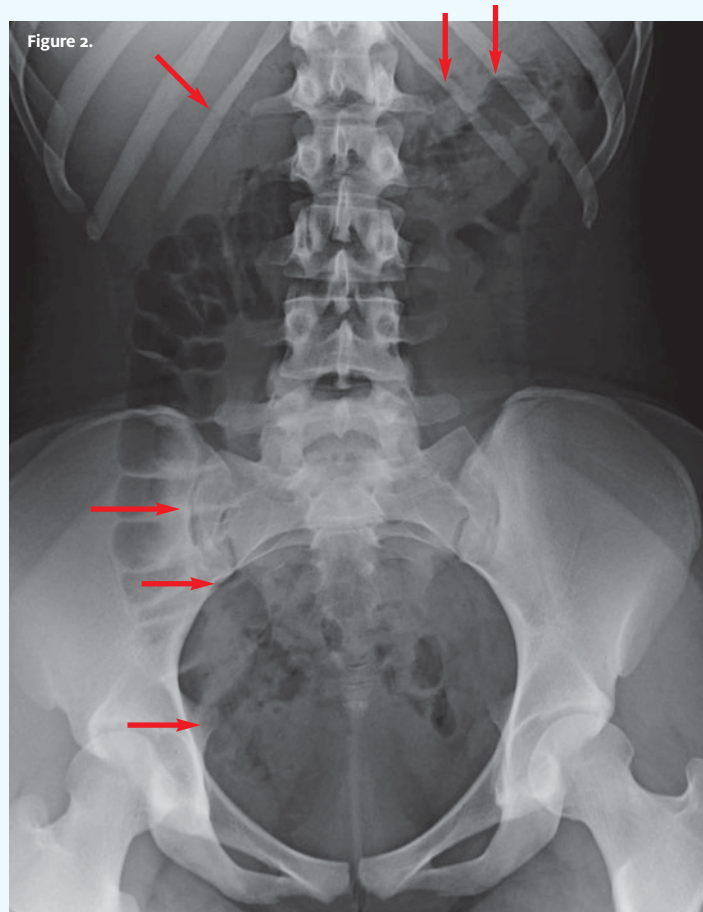


Case

An 18-year-old male presents to urgent care with widespread abdominal “gas pain” for several days. He denies changes in diet or changes in bowel habits. However, he recalls having a hard collision with another player during a lacrosse game prior to onset of 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.

THE RESOLUTION

**Differential Diagnosis**

- Pneumoperitoneum
- Pneumoretroperitoneum
- Subcutaneous emphysema

Diagnosis

The image shows mottled gas in the right lower quadrant, right upper quadrant along the liver edge, and left upper quadrant around the stomach. The findings are concerning for pneumoretroperitoneum (gas in the retroperitoneal space).

Learnings/What to Look for

- Potential causes include trauma (penetrating wounds, surgical procedures, endoscopy, pelvic fracture), colon perforation (diverticulitis, carcinoma, rectal foreign body) and extension of a pneumomediastinum

- If localized, and with an air-fluid level, retroperitoneal abscess should be suspected and may be associated with the above listed causes or pancreatitis

Pearls for Urgent Care Management

- Pneumoretroperitoneum is best visualized on CT
- Medical management including fasting, hydration, and consideration of IV antibiotics may result in spontaneous resolution
- Surgical management is indicated for larger perforations and more severe illness

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



A 55-Year-Old with a Recent History of Rash



Case

A 55-year-old female presents to urgent care with a few weeks of a mildly pruritic rash on her trunk and arms. On examination, there are scattered erythematous, fine, scaly plaques. The coin-like plaques are round or oval in configuration and affect her extremities symmetrically.

The patient denies current medications or any personal or family history of dermatologic conditions. She reports no systemic symptoms. However, she shares that she has been taking longer and more frequent bubble baths recently.

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**

- Pityriasis rosea
- Allergic contact dermatitis
- Nummular dermatitis
- Pruritus of senescence

Diagnosis

This patient was diagnosed with nummular dermatitis (nummular eczema). Many authorities consider it to be a form of eczema, and some patients may have signs and symptoms associated with classic atopic dermatitis. However, most individuals with nummular dermatitis do not have a personal or family history of atopy.

Learnings/What to Look for

- Nummular dermatitis is characterized by pruritic, coin-shaped, scaly plaques. However, it may be less pruritic than other common diagnoses with scaly plaques (eg, tinea)
- Autoeczematization (widespread eczematous eruption secondary to triggers such as infection or severe localized eczema) and impetiginization (superinfection of impaired skin barrier) may be seen

- While etiology has not been completely elucidated, onset is associated with triggers such as frequent bathing, low humidity, irritating and drying soaps, skin trauma, interferon therapy for hepatitis C, and exposure to irritating fabrics such as wool. Venous stasis may be a predisposing factor to developing lesions on the legs

Pearls for Urgent Care Management

- Hypoallergenic, fragrance-free, over-the-counter creams or ointments for good skin hydration may suffice for mild cases
- Persistent or severe cases may respond to topical corticosteroids
- If a superinfection is present, topical antibiotics may help
- An astringent compress may be employed for weepy, oozy patches

Acknowledgment: Images and case presented by VisualDx (www.VisualDx.com/JUCM).



A 39-year-old Male with Sharp, Nonradiating Chest Pain

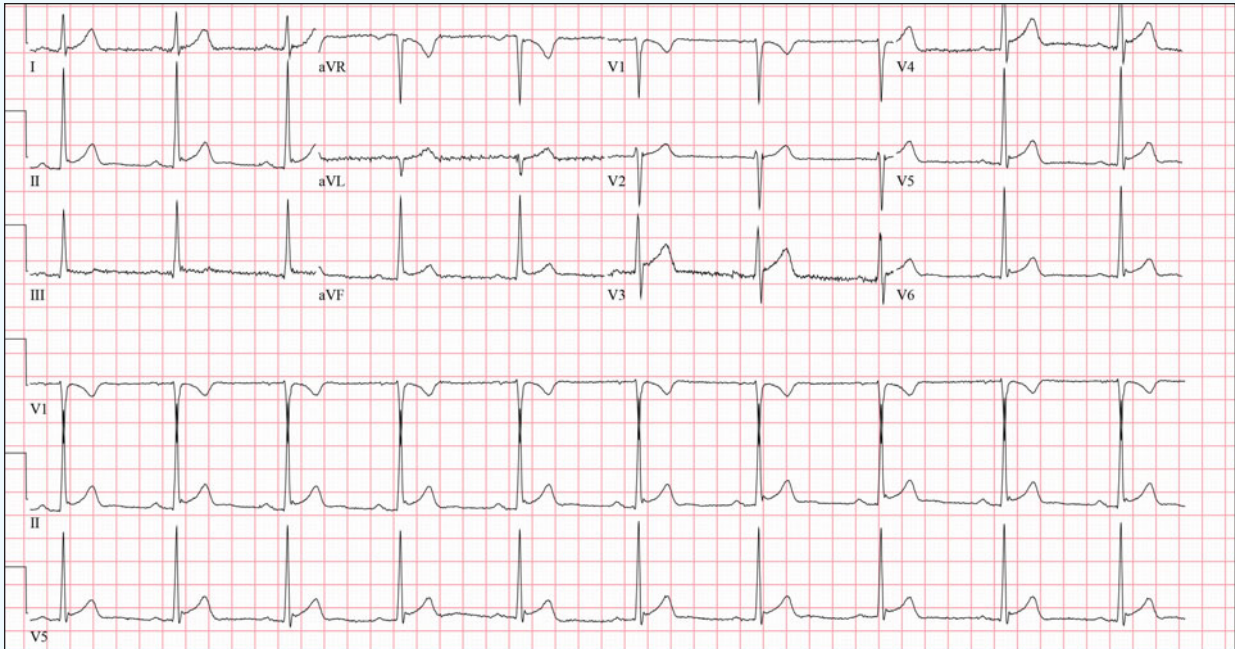


Figure 1. Initial ECG

History

A 39-year-old male with no known past medical history presents to urgent care for evaluation of several hours of sharp, nonradiating, left-sided chest pain. The pain is nonexertional, nonpleuritic, began after his last meal and resolved without intervention approximately 30 minutes prior to arrival. No history of similar pain in the past. No associated shortness of breath, nausea, vomiting, or diaphoresis

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

(Case presented by William Chavez, MD, McGovern Medical School, Department of Emergency Medicine, UTHealth Houston.)

THE RESOLUTION

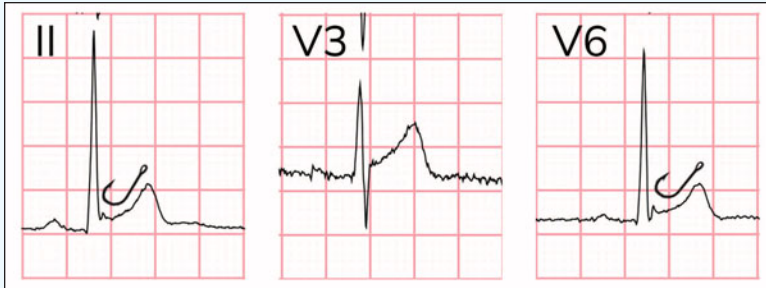


Figure 2. "Fishhook" appearance of early repolarization.

ECG Differential Diagnosis

- Left ventricular hypertrophy
- Hyperkalemia
- ST-Elevation MI (STEMI)
- Early repolarization (ER)
- Pericarditis

Diagnosis

This patient was diagnosed with early repolarization (ER). This ECG reveals a sinus rhythm of 60 beats per minute, with a normal axis and normal intervals. There are mild, concave ST-elevations, most prominent in the precordium, and to a lesser extent the inferior leads. The ST-elevations are proportional to the amplitude of the QRS complex. There are no ST depressions or T-wave inversions. Additionally, J-point notching with a "fishhook" appearance can be seen, particularly in V6 (Figure 2). The combination of these findings is consistent with (benign) early repolarization.

ER has traditionally been considered a benign condition, but newer data suggest that its prevalence is higher among patients with idiopathic ventricular fibrillation. It is unclear, however, whether this finding has any significance among asymptomatic individuals.¹ Because of this, nomenclature has shifted from benign early repolarization to, simply, early repolarization or the J wave pattern.

Electrocardiographic features of ER include diffuse ST elevations that are most pronounced in the precordial leads (typically V2-5) and in proportion to the amplitude of the QRS complex. The degree of ST elevation in V6 should be less than 25% the height of the QRS (greater than 25% suggests pericarditis).² J point notching (ie, "fishhook") can be seen (Figure 2). The T waves should be concordant (same direction as QRS), and there should not be any reciprocal changes to suggest myocardial infarction.³ When the diagnosis is in doubt, a calculator to help differentiate ER from a subtle anterior ST-elevation myocardial infarction may be useful.⁴

Current guidelines do not recommend direct treatment or other specific action to be taken for patients diagnosed with ER who have not experienced cardiac arrhythmias, syncope, or cardiac arrest. While individuals with ER seem to be at higher risk of ventricular fibrillation compared with the general population, the absolute risk is still extremely small.¹ These patients can be safely discharged.

Learnings/What to Look for

- Electrocardiographic features of ER include:
 - Diffuse ST-elevations that are most pronounced in the precordial leads (typically V2-5)
 - The degree of ST elevation should be less than 25% the height of the QRS
 - J point notching (ie, fishhook)
 - Concordant T waves
 - Absence of reciprocal changes to suggest myocardial infarction

Pearls for Urgent Care Management

- Utilize the clinical history in conjunction with the ECG to identify acute coronary syndrome
- No specific action needs to be taken for patients diagnosed with ER. They can be safely discharged

References

1. Haïssaguerre M, Derval N, Sacher F, et al. Sudden cardiac arrest associated with early repolarization. *N Engl J Med*. 2008;358(19):2016-2023.
2. Ginzton LE, Laks MM. The differential diagnosis of acute pericarditis from the normal variant: New electrocardiographic criteria. *Circulation*. 1982;65(5):1004-1009.
3. Wagner GS, Strauss DG. *Marriott's Practical Electrocardiography*. 12th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2014.
4. Driver BE, Khalil A, Henry T, et al. A new 4-variable formula to differentiate normal variant ST segment elevation in V2-V4 (early repolarization) from subtle left anterior descending coronary occlusion—adding QRS amplitude of V2 improves the model. *J Electrocardiol*. 2017;50(5):561-569.

ECG  STAMPEDE