



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 46-Year-Old Woman with Wrist Pain After Hearing a ‘Snap’



Case

The patient is a 46-year-old female with pain in her wrist. She reports that she heard a “snap” when she put all her body weight on her left hand during an exercise class.

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

THE RESOLUTION



Differential Diagnosis

- Distal radius fracture
- Ulnar styloid fracture
- Scaphoid fracture
- Carpal instability dissociative injury

Diagnosis

Findings are concerning for scapholunate carpal instability dissociative injury (CID) suggestive of a full thickness tear.

Learnings/What to Look for

- The AP view reveals widening of the scapholunate interval
- The lateral view shows widening of scapholunate angle, normal lunocapitate angle, and slight dorsal rotation of lunate
- Scapholunate angle widened (should be 30° - 60°); this is due to slight dorsal angulation of the lunate

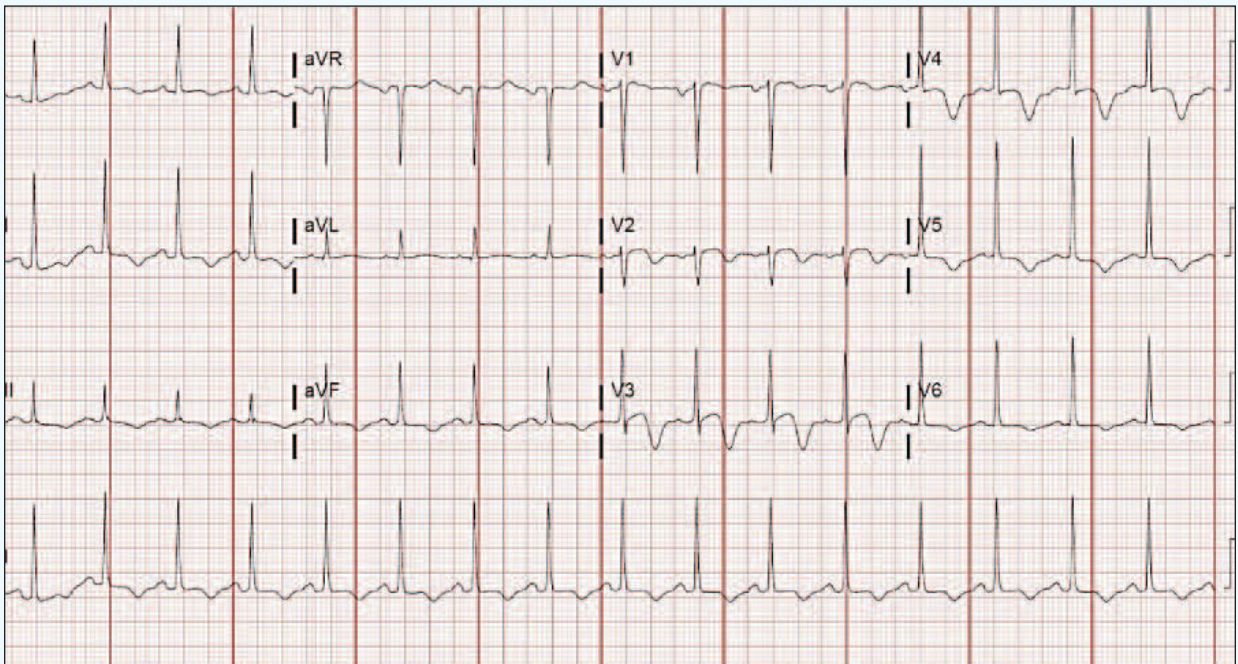
Pearls for Urgent Care Management and Considerations for Transfer

- Treatment of CID may be nonoperative or operative
- Midcarpal instability can often be managed with immobilization and splinting
- Surgery may be necessary with ulnar translation associated with styloid fractures; with midcarpal instability with late diagnosis that failed nonoperative management; and with distal radius malunion

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



A 60-Year-Old Woman with a 4-Day History of Intermittent Exertional Chest Pain



Case

The patient is a 60-year-old female with no past medical history who presents with intermittent exertional chest pain for 4 days. She reports the pain is substernal with radiation to her left arm, is associated with nausea and diaphoresis, and is worsened by exertion. The patient says she experiences pain every 4-5 hours, but currently is pain-free.

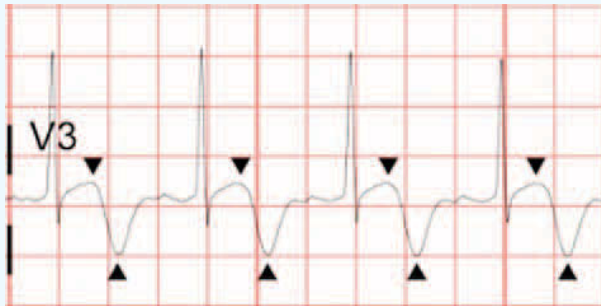
View the ECG taken and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

(Case presented by Catherine Reynolds, The University of Texas Health Science Center at Houston McGovern Medical School.)

THE RESOLUTION

Differential Diagnosis

- Brugada syndrome
- Left ventricular hypertrophy
- ST-elevation myocardial infarction (STEMI)
- Wellens syndrome
- Hypokalemia

**Diagnosis**

The ECG illustrates a normal sinus rhythm at 98 bpm. The biphasic T waves with terminal negativity in V2 and V3, minimal ST segment elevation, lack of precordial Q waves, and preserved R wave progression (R wave >3 mm in V3) suggest the presence of Wellens syndrome in this patient with a history of angina who is currently denying chest pain.

In the correct clinical context, Wellens syndrome represents an ECG pattern seen in patients with critical stenosis of the proximal left anterior descending artery (LAD). The finding of biphasic T waves (type A) or deeply inverted and symmetric T waves (type B) in the anterior precordial leads (V2 and V3) are seen when patients are chest pain-free. These patients are at risk for sudden occlusion of their proximal LAD, and should be considered for urgent catheterization. The T waves are similar in appearance to those seen upon reperfusion by percutaneous coronary intervention (so-called “reperfusion” T waves), leading some to hypothesize that these patients may have had sudden occlusion followed by spontaneous reperfusion. If the artery re-occludes, the patient will develop symptoms and the ECG will first show “pseudonormalization” of the T wave, where it be-

comes upright and prominent. A persistent re-occlusion will evolve into an anterior ST-elevation myocardial infarction.

The stuttering pain experienced by the patient in our case could have been due to intermittent re-occlusion followed by rapid and spontaneous reperfusion. She was sent to the emergency department where initial testing was negative. The following day, she was taken to the cath lab, where a 99% proximal LAD stenosis was identified and successfully stented.

Learnings/What to Look for:

- Biphasic (type A) or deeply inverted (type B) T waves in V2-3, which may extend to V1-6
- Minimal or no elevation of the ST segment
- Lack of precordial Q waves
- Preserved R wave progression
- Recent history of chest pain, but chest-pain-free on evaluation
- May have normal or minimally elevated cardiac enzymes

Pearls for Urgent Care Management and Considerations for Transfer

- Patients with Wellens syndrome have an impending anterior wall myocardial infarction and must be transferred for admission for urgent cardiac catheterization
- Stress test should be avoided, as it may precipitate an acute infarction
- If these patients develop another episode of chest pain while awaiting transfer, repeat their ECG and look for an anterior STEMI or “pseudonormalization” of the anterior T waves—this means they are experiencing an acute re-occlusion of the LAD

Resources

- de Zwaan C, Bär FW, Wellens HJ. Characteristic electrocardiographic pattern indicating a critical stenosis high in left anterior descending coronary artery in patients admitted because of impending myocardial infarction. *Am Heart J*. 1982;103(4 Pt 2):730-736.
- Hanna EB, Glancy DL. ST-segment depression and T-wave Inversion: classification, differential diagnosis, and caveats. *Clev Clin J Med*. 2011;78(6):404-414.
- Mead NE, O’Keefe KP. Wellen’s syndrome: an ominous EKG pattern. *J Emerg Trauma Shock*. 2009;2(3):206-208.
- Rhinehardt J, Brady WJ, Perron AD, Mattu A. Electrocardiographic manifestations of Wellens syndrome. *Am J Emerg Med*. 2002;20(7):638-643.



An 8-Year-Old Girl with Lesions on Her Arms



Case

The patient is an 8-year-old girl with a smattering of brown to black lesions on her arms. They're not painful or causing discomfort, but her mother is concerned because they look darker than the average freckle. Exam reveals small (less than 0.5 mm), round, hyperpigmented macules.

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**

- Common acquired nevus
- Ephelides
- Lentigo simplex
- Tinea versicolor

Diagnosis

This patient was diagnosed with lentigo simplex— a common benign, hyperpigmented macule located anywhere on the body. These lentigines generally occur early in life (even at birth). They result from a mild increase in the number of normal melanocytes in the epidermis producing increased amounts of melanin.

Learnings/What to Look for

- Well-circumscribed, symmetric, homogeneous, light brown to black macules, usually smaller than 5 mm in size, are seen
- Distribution may be anywhere on the trunk, extremities, genitals, and mucous membranes
- Lentigines found on mucous membranes can appear irregular with increased size, irregular borders, and heterogeneous pigmentation
- Lentigo simplex may evolve into junctional nevi but are not thought to evolve into melanoma
- Macules differ from solar lentigines in that they appear earlier in life on non-sun-exposed skin

Pearls for Urgent Care Management and Considerations or Transfer

- Lentigo complex is a benign lesion; no treatment is necessary
- Referral to a dermatologist for a baseline exam and subsequent follow-up is warranted

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