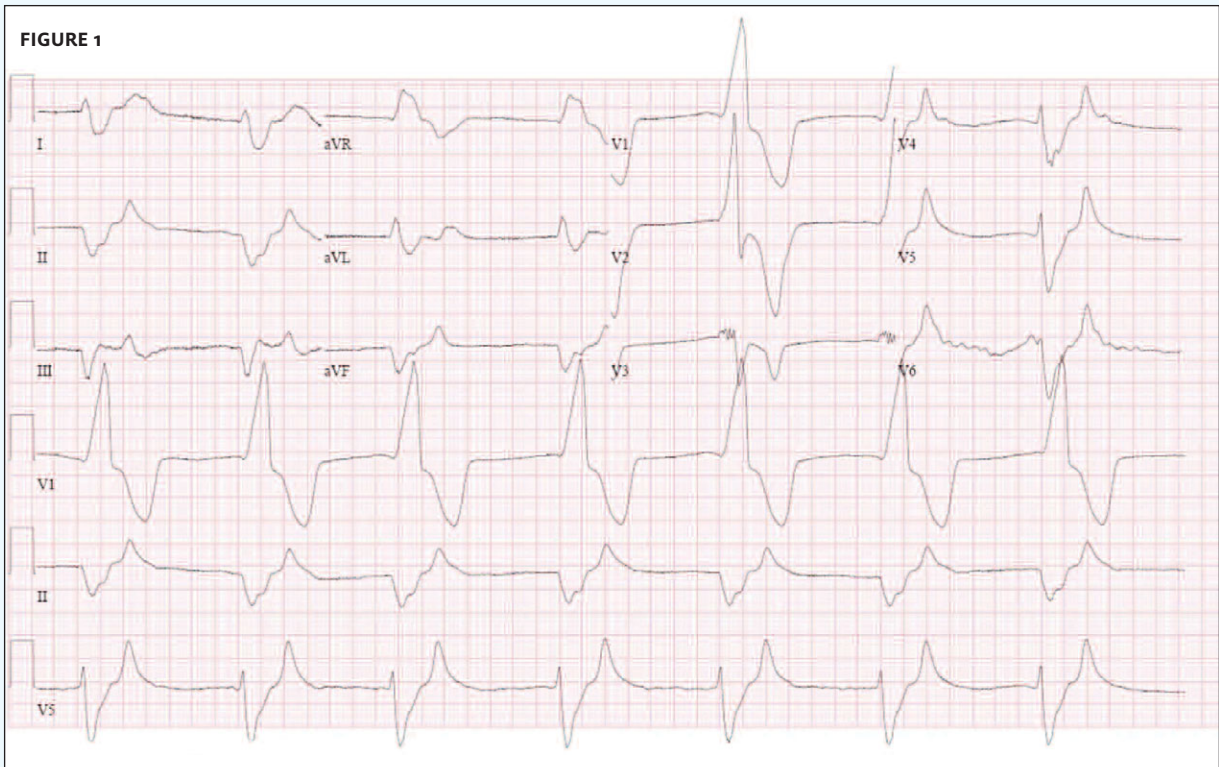




In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of dermatologic conditions that real urgent care patients have presented with.

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



The patient is a 37-year-old female who presents with a history of long-standing hypertension and diabetes mellitus. She had recently started on a new diuretic and felt very weak and light-headed.

Her blood pressure was 88/56 mmHg with a pulse of 44 beats per minute.

View the patient's ECG (**Figure 1**). Consider the type of diuretic she is likely to be taking and what your next steps would be.

Resolution of the case is described on the next page.

Peer Reviewers Needed

Each clinical cover article in *JUCM* is peer-reviewed by three physicians expert in the subject.

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INSIGHTS IN IMAGES

This ECG is highly suggestive of severe hyperkalemia, based on the loss of P waves, tall and widened T waves, and grossly prolonged QRS duration (often described as a "sine wave").

Most cases of significant hyperkalemia are due to underlying renal insufficiency, with potassium levels increased by tissue breakdown (eg, rhabdomyolysis), certain medications (eg, potassium-sparing diuretics), or occasionally hormonal deficiency (eg, adrenal insufficiency).

Symptoms of severe hyperkalemia include fatigue, weakness, nausea, heart failure, and various cardiac arrhythmias.

This patient was recently started on spironolactone and had a serum potassium of 8.6 mEq/L.

Treatment of symptomatic hyperkalemia should begin when there is reasonable clinical suspicion, as serum measurements may be delayed. While availability of agents may be limited in the urgent care setting, the following should be considered, when available, for immediate treatment while awaiting transfer to the ED:

- The patient should first receive intravenous calcium chloride or gluconate to antagonize hyperkalemic cardiac effects.
- Sodium bicarbonate, dextrose with insulin, nebulized beta-sympathomimetics (as well as intravenous ones, including epinephrine) and intubation with hyperventilation shift potassium into cells.
- Loop diuretics (eg, furosemide) and potassium-binding resins (eg, sodium polystyrene sulfonate [Kayexalate]) increase potassium excretion, although dialysis is the best removal method for severe hyperkalemia.

Acknowledgement: Case presented by John F. O'Brien, MD, FACEP, Associate Professor of Emergency Medicine at the University of Central Florida School of Medicine and Florida State University School of Medicine, and Associate Residency Director of the Department of Emergency Medicine at Orlando Regional Medical Center in Orlando, Florida.

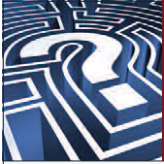


FIGURE 1



The patient, an otherwise healthy 22-year-old, fell on his back and now is experiencing significant mid-back pain.

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



The patient's problem list includes trauma. The diagnoses are Fx, Fx vertebral.

This x-ray shows fracture of lateral process of the lumbar spines 2 and 3.

Lumbar transverse process fractures are commonly thought of as minor injuries compared with body, pedicle, and lamina fractures. As long as there is no evidence of abdominal injury or neurological deficit, these can be managed with pain control and orthopedic follow-up.

Acknowledgement: Case presented by Nahum Kovalski, BSc, MDCM, Terem Emergency Medical Centers, Jerusalem, Israel.