

# Radiology Case

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# History

56 year-old woman with ESRD on HD and HTN came into the ED with increasing dyspnea (including at rest), orthopnea, a new productive cough with yellow-green sputum, and right-sided chest pain. Of note, she missed her dialysis last dialysis session.

In the ED she was found to have crackles in her right lung fields.

Vitals showed T 98.1F, HR 95, BP 200/105. SpO2 90% on RA. Labs notable for WBC 13.2 and K 8.1.

CXR in the ED



# Differential Diagnosis

## **Diffuse airspace opacities**

- Large R-sided multi-lobar pneumonia?
- Pulmonary edema (but asymmetric)?
- Alveolar hemorrhage?

CXR following day  
After dialysis



# Differential Diagnosis

## Diffuse airspace opacities

- Large R-sided multi-lobar pneumonia
- **Asymmetric pulmonary edema**
- Alveolar hemorrhage

Improvement after 1 day, after a dialysis and significant volume removal, suggests asymmetric pulmonary edema

# Unilateral Pulmonary Edema

- Pulmonary edema usually symmetric & bilateral, with increased interstitial markings, enlarged pulmonary vasculature, and airspace opacification (if severe).
- Occasionally, pulmonary edema can manifest unilaterally.
- Unilateral pulmonary edema is classically cardiogenic, and associated with acute onset mitral regurgitation (post-MI, acute volume overload on top of underlying mitral valve disease), attributed to regurgitant jet that flows towards the right pulmonary artery greater than the left.
- There have been case reports of non-cardiogenic unilateral pulmonary edema from volume overload in patients with kidney disease.
- Lesson: correlation with patient's clinical history/status, as well as continued monitoring are essential to distinguishing this from other entities.