Postprimary tuberculosis appears as upper lobe apical/posterior segment heterogeneous consolidation with cavitation, with thick, nodular, and irregular walls. Cavitation is present in 45% of cases. Other findings include centrilobular nodules, tree-in-bud opacities, and acinar/lobular consolidations. Lymphadenopathy was not seen in this patient; however, it is present in 5% of cases.

Definitive diagnosis of active tuberculosis is based on sputum culture.

**Radiographic findings can include:**
- Airspace consolidation (lobular sized and peribronchial)
- Cavitations with variable wall thickness
- Endobronchial spread to dependent portions of lung (centrilobular nodules, tree-in-bud appearance, bronchial wall thickening)
- Other findings: fibrotic changes, volume loss, adenopathy, pleural effusions
- Distribution: often segmental, apical and apical posterior segments of upper lobes and superior segments of lower lobes, gravity dependent lobes (via bronchogenous spread)
- Signs of active disease: signs of endobronchial spread, cavitation, consolidation
- Inactive disease: requires stability over 6 months
- Sequela: Consolidation and nodules resolve over 9-12 months with successful treatment. Signs of fibrosis, volume loss, calcifications of lung and lymph nodes may appear.
- If immunosuppressed, there may be progress to miliary tuberculosis, ARDS (acute respiratory distress syndrome), extrathoracic dissemination to breast, spine, kidney, meninges, bone
- Treatment regimens vary with drug susceptibility of organisms, image findings, and clinical factors. Multiple antituberculous drugs are administered over a prolonged time period. First-line drugs include isoniazid, rifampin, streptomycin, ethambutol, pyrazinamide. Second-line drugs include amikacin, kanamycin, and capreomycin. Hemoptyis is treated with bronchial artery embolization or surgery. Cavitation stability longer than six months is reported as stable, rather than inactive, disease.

**REFERENCES:**
Answer to Radiographic Quiz

Description of the radiographies

There are patchy airspaces in both upper pulmonary lobes associated with cavitations, which appear superimposed in the lateral view. The cavitation in the right lung reveals air-fluid level.

Diagnosis: Reactivation pulmonary tuberculosis

1. What is the most relevant finding?
   - _____ Perihilar adenopathy
   - _____ Bilateral upper lobe cavitation
   - _____ Cystic lucencies
   - _____ Blunting of the posterior costophrenic angles
   - _____ Peripheral atelectasis
   - _____ Apical lung scarring

2. Which infectious process would be most compatible with the findings?
   - _____ Primary TB
   - _____ Reactivation TB
   - _____ Cryptococcus
   - _____ Invasive aspergillosis
   - _____ PCP (pneumocystis pneumonia)

3. The patient should be offered HIV screening?
   - _____ Yes
   - _____ No