 



**HIV and TB - Facilitators Notes:**

How to run the learning session:

1. Start with the first 4 slides to introduce the key concepts and the first case vignette. Ask the group as a whole to give the top 3 possibilities on the differential (Community acquired pneumonia, TB or PCP). (slide 5)
2. Break the audience up into groups of 3-4 people to begin answering the questions 1-4 in teams. Have then record their thoughts on the worksheet. Allow 15 minutes for the first 4 questions.
3. Discuss the first 4 questions – each group provides an answer to one question and you and the other teams provide feedback on their answer.
4. Go through slide 6 to show the lab results.
5. Move to the next set of 3 questions with the same teams working together. Allow 10 minutes.
6. Discuss the questions in a similar fashion for the last 3 questions of case #1, moving through slides 7-8.
7. Present slide #9-11 to reinforce key concepts
8. Present slide #12-13 having learners offer suggestions and summarize main features of TB treatment regimens.
9. Present Case #2 – slides 14-17. Ask for a read of the XR by a learner on slide 17.
   1. Highlight subtle military pattern and globular heart. – what physical exam should be done? (slide 18)
   2. Discuss TB pericarditis (relatively common) and the disastrous effects of missing TB diagnosis, treatment with HAART then having as IRIS response that consumes the lungs and smothers the heart if pericarditis present.
10. Discuss the question 2 cases in the large group and summarize the answers with slide 21

Case #1:

1. Weight loss and night sweats are differential finding symptoms of TB infection in HIV patients. Cough and fevers may not be very pronounced in patients with advanced stages of AIDS. Usually weight loss has lasted more than 8 weeks prior to presentation with TB, and more often is several months if not a year prior to presentation.
2. Low oxygen saturation and rales should are the most significant findings. These findings are most consistent with acute PCP infection. Hypotension is also present and should be addressed as well (sepsic, circulatory collapse)
3. The key differential between TB and PCP, or PCP suprainfection in the setting of tuberculosis is that of hypoxia. Hypoxia is not a significant finding a tuberculosis until there is a massive amount of lung destruction. It is important to remind learners, that other forms of pneumonia also are more common in AIDS patients including community-acquired pneumonia.
4. Lab tests that may be available would include a rapid HIV, hematocrit, and chest x-ray. May be able to obtain a CD4 count in some hospitals.
5. Empiric treatment should include treatment for community acquired pneumonia, PCP, and TB - this would mean that the patient should be started on ceftriaxone, high-dose Bactrim, and TB treatment. TB treatment should consist of rifampin (R ), INH (H), Pyrazinamide (Z), and Ethambutol (E) – RHZE.
6. Prophylactic regimens would include treatment for PCP prophylaxis if the x-ray and findings were not suggestive of active PCP (which would require high-dose treatment instead of low dose prophylaxis). Steroids should also be added in this patient because of the diffuse nature of the PCP infection and hypoxia.
7. Treatment with HAART therapy should be delayed by 2 weeks to allow for initiation of TB treatment to reduce the risk of an IRIS reaction. Neviripine should not be part of the treatment regimen because of its interaction with Rifampin. Efavirenz is the favored NNRTI for patients on RHZE but a higher dose will be needed to have adequate levels (800mg a day).

Case #2

1. The cardiac silhouette and this chest x-ray and also that in case #1 are larger than would be expected. In this patient, a upright examination of the heart with the patient leaning forward allowed for the auscultation of a clear pericardial rub indicating TB pericarditis was present. It is likely that the pericarditis was part of an IRIS reaction do to treatment with antiretrovirals without treatment of TB.
2. For pericarditis, treatment with high-dose nonsteroidals or steroids at 40 mg of prednisone a day would adequately treat the reaction and prevent tamponade
3. The main complication with HAART treatment in this patient is that of immune reconstitution inflammatory syndrome. Delaying by 2 weeks or longer the treatment of HIV will reduce the risk of this developing