**Background**

- *Mycobacterium kansasii* is the second most common nontuberculous mycobacterium (NTM) species isolated from patients with HIV/AIDS and is considered to be one of the most virulent after *Mycobacterium avium complex*
- Tap water is a major reservoir and infection occurs via aerosols
- CXR findings vary significantly between HIV seropositive and seronegative patients
- In immunocompromised patients, *M. kansasii* pulmonary disease usually presents as upper lobe cavitary lesions
- However, in patients with HIV/AIDS, the clinical and radiographic pulmonary presentation of *M. kansasii* has not been well described
- Confounding the presentation of this disease is the high rate of coinfection by other pulmonary pathogens

- Histoplasmosis is a systemic mycotic infection caused by the fungus *Histoplasma capsulatum*
- Histoplasmosis is endemic in central eastern United States, especially in the Ohio and Mississippi River Valleys
- Histoplasmosis clinically presents in one of three forms: primary acute pulmonary disease, chronic pulmonary disease, or disseminated
- In HIV positive patients, up to 95% of histoplasmosis disease presents as a disseminated infection
- Disease severity depends on infectious load, underlying immune function, and baseline pulmonary function

Here we describe a case of coinfection with *M. kansasii* and *Histoplasmosis* presenting as a recurrent pleural effusion in a patient with HIV/AIDS.

**Case Presentation**

- 67 year old African American man with HIV/AIDS (CD 4 count 11)
- 6 month history of unintentional weight loss (approximately 20 pounds) and a one month history of dyspnea on exertion and cough productive of yellow-brown sputum
- At time of presentation, he denied any chest pain, fevers, or night sweats
- Social history was significant for a remote incarceration, 15 years prior for approximately 1 year and a 50 pack year smoking tobacco history
- Last negative PPD was 2 years prior.
- He had discontinued HAART therapy 2 years prior citing cost and was on no medications
- On admission, VS: BP 140/98, HR 96, RR 18, POX 97% on room air
- Pertinent exam findings included cachexia, seborrheic keratosis
- Lung exam significant for decreased fremitus, flatness to percussion to the level of the scapula, and decreased breath sounds on the right. Lungs were clear on the left
- There were no peripheral signs of clubbing, cyanosis or edema
- EKG showed sinus tachycardia, left atrial enlargement, left anterior fascicular block, and LVH.

**Hospital Course and Treatment**

- Started on empiric antibiotics for community acquired pneumonia
- Placed on respiratory isolation, first sputum sample obtained was positive for AFB
- Thoracentesis performed. 1500ml of yellow fluid was obtained and consistent with an exudative effusion
- Started on RIPE therapy as well as on prophylactic doses of Bactrim DS and Azithromycin and subsequently discharged
- Pleural fluid culture eventually grew *Histoplasma capsulatum*
- Readmitted for initiation of Amphotericin treatment. VS and physical exam remained unchanged
- Started on Ambisome IV and continued on RIPE therapy
- Lumbar puncture to rule out disseminated disease was negative for *histoplasmosis*, Acid-fast bacillus, and *cryptococcus*
- Patient refused a bone marrow biopsy
- Gen-probe and culture of both sputum and pleural effusion were eventually positive for *Mycobacterium kansasii*
- Treatment tailored to include REI therapy and oral intraconazole
- He did not require any supplemental oxygen

**Discussion**

- In one reviewed study (Cattamanchi, et al), 69% of HIV positive patients had both *M kansasii* and another pulmonary pathogen isolated concurrently from respiratory specimens
- It is not possible to definitively determine whether the findings in our patient were due to *M. kansasii* alone, *histoplasmosis*, or the combination of the two
- *M kansasii* and *histoplasmosis* can present with a diverse spectrum of lung findings in patients with HIV infection that may differ from the typical patterns seen in immunocompetent patients
- Due to the highly variable clinical and radiographic presentation and frequent occurrence of coexisting pathogens, all patients with HIV/AIDS and respiratory symptoms should be evaluated for mycobacterial disease and opportunistic infections such as *Histoplasmosis*

**References**

- http://www.cdc.org
- Shin, K et al. Clinical and radiological features of Mycobacterium kansasii infection and *Histoplasma* sputalae infection. Resp Med. 2008. 102, 1598-1603