

## Introduction :

Cryptococcal infection is frequently associated with significant immunosuppression, with 80-90% of the cases occurring in those with HIV infections [1]. Disseminated disease is uncommon and when present almost always occurs in HIV-infected individuals. Here, we present a case of cryptococcal meningitis and pneumonia in an immunocompetent patient with significant environmental exposure to pigeons.

## Case Description:

An 82-year-old male presented to the ED with abdominal pain and constipation. He endorsed a 20 pound weight loss over several months. His pertinent past medical history included hypertension, diabetes mellitus, and hyperlipidemia. The patient never smoked and was a retired construction worker.

On initial presentation laboratory abnormalities included hyponatremia (125 mEq/L) and hypercalcemia (11.1 mg/dL). HIV testing was negative. The CT of abdomen was unrevealing and a chest X-ray was ordered showing a 3.8 cm mass-like lesion (Figure 1). CT of the chest was significant for a right upper lobe mass with cavitation, as well as two additional peripheral masses in the left lower lobe.

The pulmonary lesion and the laboratory abnormalities were highly suspicious for underlying malignancy. Upon further inquiry, the patient reported to have been treated for cryptococcal meningitis three months prior at another health care facility. At that time the pulmonary masses with cavitation were identified and presumed to be secondary to Cryptococcal fungal infection.

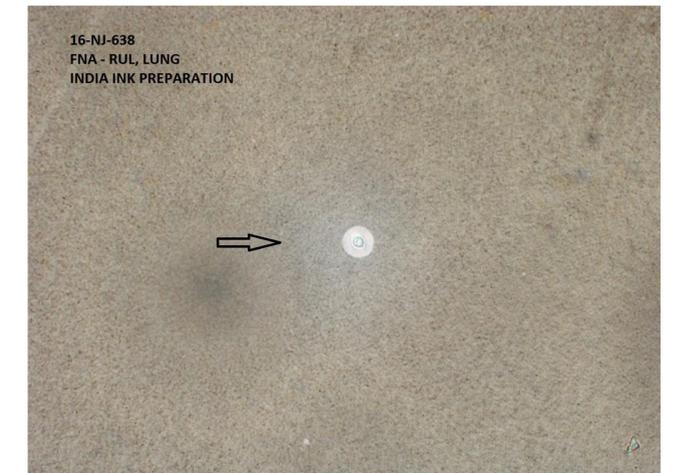
Additionally, he was found to be living in a house with extensive pigeon invasion with exposure to their droppings. He was treated as an outpatient with antifungals but was found to have little improvement in the serial imaging studies of the pulmonary lesions.

Immune function markers were normal. The patient continued to complain of fatigue and weakness.

As a result of the patient's persistent symptoms and presentation, which mimicked malignancy, a biopsy was obtained of one of the pulmonary masses, which was consistent with *Cryptococcus* species (Figure 2). The patient was continued on fluconazole for disseminated Cryptococcal infection.



**Figure 1.** Chest X-ray showing 3.8 cm mass-like lesion in the right mid-lung zone.



**Figure 2.** India-ink staining of fine needle aspirate from the right upper lung revealing the classic halo of *Cryptococcus*.

## Discussion:

Disseminated Cryptococcal infections in immunocompetent individuals are uncommon. There have been few reports linking Cryptococcal infection to pigeon droppings. However, due to lack of alternate explanation and the strong environmental exposure in this patient, it is hypothesized that the *Cryptococcus* was due to contact with pigeon droppings. This case illustrates exposure to pigeon droppings as a risk factor for Cryptococcal infection that can sometimes be severe.

### References:

- 1) S. Suchitha, C. S. Sheeladevi, R. Sunila, and G. V. Manjunath, "Disseminated Cryptococcosis in an Immunocompetent Patient: A Case Report," Case Reports in Pathology, vol. 2012, Article ID 652351, 3 pages, 2012. doi:10.1155/2012/652351
- 2) F. AlMutawa, D. Leto, and Z. Chagla, "Disseminated Cryptococcal Disease in Non-HIV, Nontransplant Patient," Case Reports in Infectious Disease, vol. 2016, Article ID 1725287, 4 pages, 2016. dx.doi.org/10.1155/2016/1725287