Multiple Cavities In Lungs : Adiagnostic Dilemma

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ABSTRACT

A lung cavity is an air containing space surrounded by a wall of variable thickness{1}

Cavitary lung lesions are commonly encountered on imaging,while the cause of pulmonary cavities can be varied depending on its etiology like infection,which may be bacterial or viral{2} .Similarly fungal infection like Aspergillus,Mucor or Candida sp is commonly seen in immunocompromised persons like HIV patients, alcoholics or elderly persons with poor oral hygiene or may be in patients with seizure disorders{3}.Presentation is usually with cough fever malaise.Endemic fungi like Histoplasma or blastomyces and coccidomyces may be causative agents of pulmonary cavities in immunocompetent hosts{4-5} There could be mixed causative factors in immunocompromised patients{6-7} Here we report an interesting case of multiple pulmonary cavities that posed a diagnostic challenge due to its clinical presentation and final treatment outcome.

CASE SCENARIO:

60 Year old male ,farmer by occupation presented to us with complaints of yellowish discoloration of eyes for preceding 3 months.He was immune competent but chronic smoker for last 20 years .Along with yellowish discoloration he had cough fever (low grade)nausea and vomiting.Cough was productive of scanty mucoid sputum,non foul smelling and not associated with hemoptysis.Patient did not receive any Anti Tubercular treatment earlier.His Examination showed vitals of Pulse rate 84/min,Respiratory rate 18/min.His Blood pressure was 134/78 mmhg.He was afebrile ,on examination of respiratory system few coarse crepitations were heard in right infrascapular area.

Laboratory Investigations:His hematological investigation showed Hemoglobin 10 mg/dl with Total leucocyte count of 6500,with polymorphs74%and lymphocyte count of 22%. His renal function tests ,blood sugar were in normal range. Liver function test was deranged with bilirubin of 2.4 with direct bilirubin value of 1.9 and indirect bilirubin was 0.5.SGPT value was 51 U/LSGOT 40U/L ,PT INR 1.39.His Triple tests wasPositive for Hepatitis B and HIV andHCV was negative.Serum IgG was negative for echinococcus.Mantoux test showed induration of 10x12 mm ,while ECG was normal.Sputum examination was negative for Acid Fast Bacillus and so was gram stain and sputum culture sensitivity examination.Fungal culture of sputum also did not grow any fungus.Urine culture and sensitivity was also negative of any growth.Brochoscopy was performed to sample bronchoalveolar fluid for investigation but it was negative in pyogenic culture and sensitivity,as well as Mycobacterial culture and sensitivity and fungal culture sensitivity also came negative. Ultrasound examination of abdomen showed 4 mm renal stone in right kidney but liver echotexture or size was not enlarged.He was RA Factor negative with normal ANA value of 0.29(<1.0 is negative).For this complaints patient consulted a private practitioner earlier and was treated as a case of jaundice(acute hepatitis B with little releif.Patient presented to our hospital OPD with complaints of low grade fever cough and appetite loss.Patients Chest X Ray and CT Thorax was done which showed multiple round cavitary lesions in mid and lower zones in both lung fields.In view of investigations and clinical picture a differential diagnosis of Atypical pneumonia (Histoplama/mycoplasma)or cavitating bacterial pneumonia like klebsiella,pseudomonas or anaerobic bacterial infection was kept in consideration but patients relatively stable clinical profile as well as negative sputum and blood culture

examination excluded cavitating bacterial pneumonia as cause of pulmonary cavitation . Lung Hydatid Cyst ,Rheumatoid nodules or septic emboli as cause of pulmonary cavitation were ruled out after thorough investigations.As patient wasHIV negative so Pneumocystis carinii infection,Non Tubercular Infection and fungal colonization were also excluded. Patient was finally diagnosed as a case of Hepatitis B infection with cavitating lung lesions . He started on injectable Cefuroxime 1 gm twice a day for 7 days with Injectable Azithromycin 1gm once a day for 5 days. Patient responded to treatment and his cough fever subsided over 15 days time,his repeat Chest XRay showed significant resolution of bilateral pulmonary cavitation.Patient was discharged from hospital in stable condition and his follow up was uneventful.

Discussion and conclusion:

This case was a diagnostic challenge as cause of pulmonary cavitation in an immunocompetent ,clinically stable patient due to Atypical pneumonia is relatively uncommon .It usually presents as low grade fever cough and malaise with subtle chest XRay findings with protracted clinical course of 10 -15 days in most of the cases.However patients clinical improvement with injectable antibiotics and symptomatic treatment response clinched the diagnosis in favor of atypical pneumonia,and highlighted the fact that there could be varied clinical and radiological presentation of AtypicalPneumonia. This case would also help clinicians in proper approach towards patient treatment in such uncommon but interesting cases.

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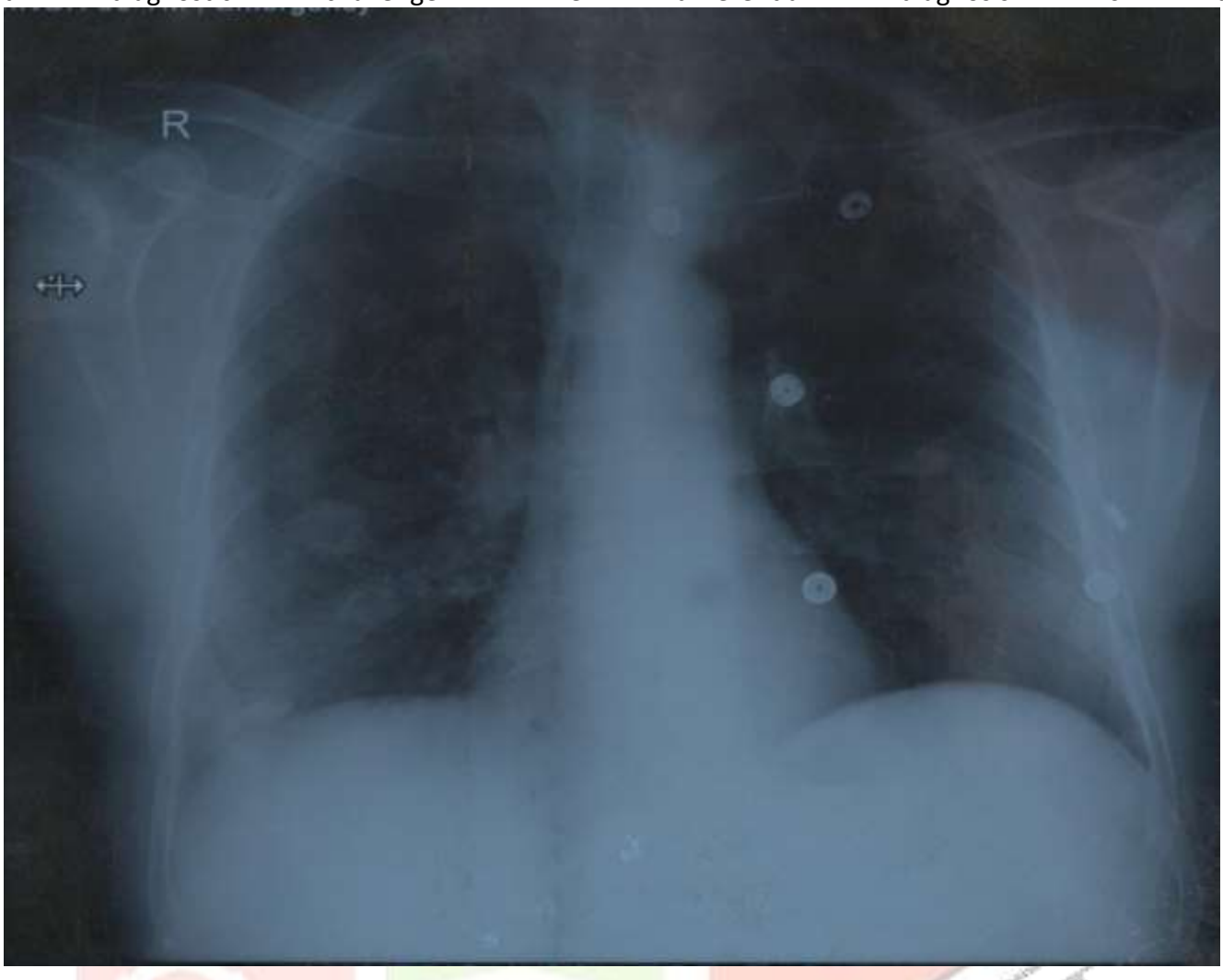

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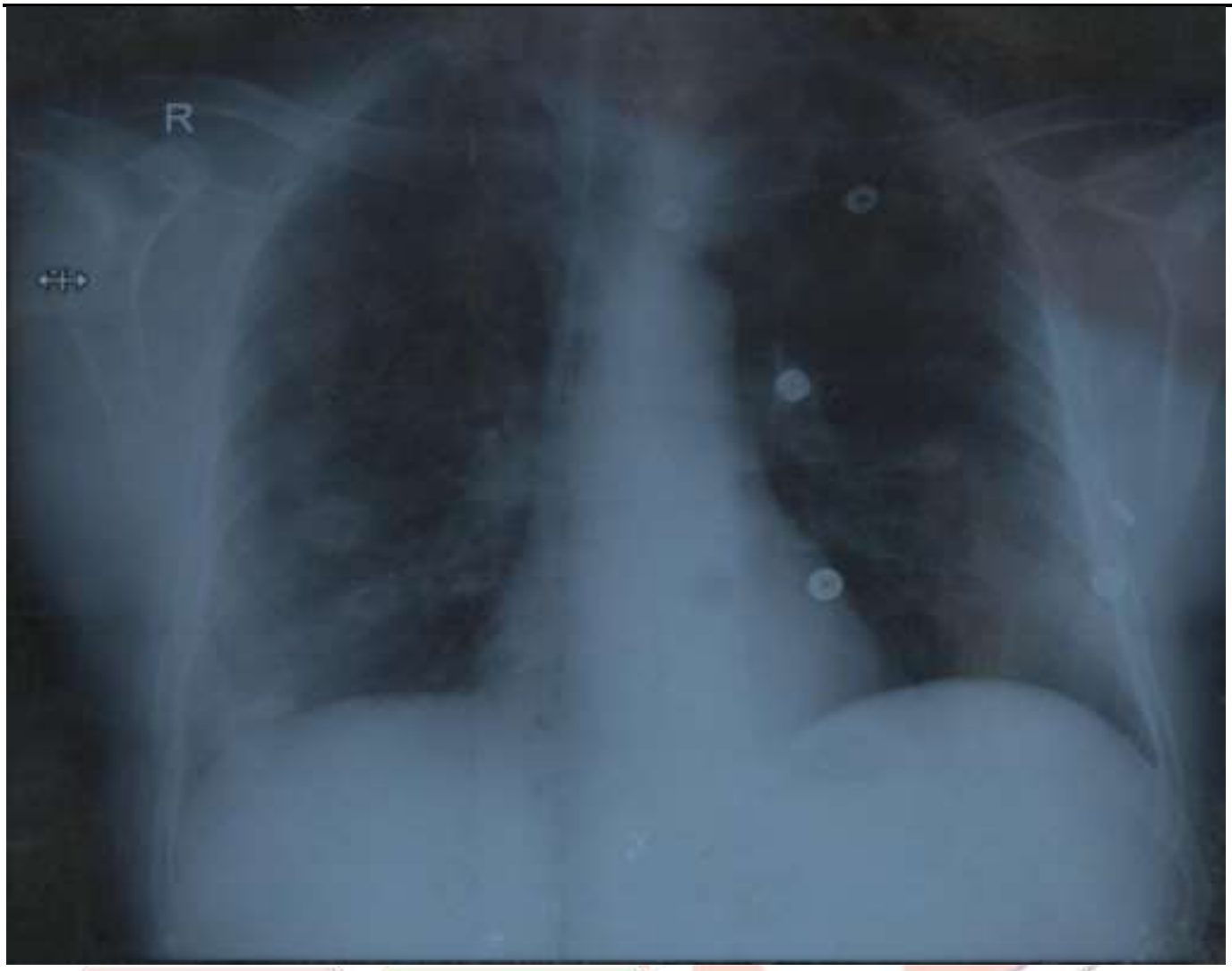

CXray after 3 weeks of treatment(showing resolutionof bilateralpulmonary cavitation)