

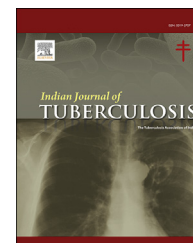


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Letter to editor

Nocardial pneumonia as an opportunistic infection in Covid treated patient

Keywords:

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SARS CoV2

Dear Editor,

We are still evolving with respect to the new virus of SARS CoV2. As the time passes we are coming across new information pertaining to Covid -19. There are various post Covid complications listed in published literatures.¹

Here we are presenting a case of pulmonary nocardiosis as an opportunistic infection in a covid treated case.

A 47-year-old female came to our hospital with a history of Covid infection in the preceding month. Patient was discharged previously on steroid as a continuation of Covid therapy.

The patient presented with complains of continuous moderate to high grade pyrexia for 15 days, troublesome irritant cough, breathing discomfort, generalized weakness for 10 days in the department of emergency. The patient was admitted for further work up.

On admission patient was febrile, conscious and well oriented. Examination revealed HR 84/min, BP 140/70, SpO₂ 95%, Respiratory 16 rate/minutes, Temperature 99.6 °F. RT-PCR testing for detection of Covid 19 was negative at the time of admission.

Sputum for Grams stain, culture sensitivity, acid fast bacilli (AFB) stain, gene xpert for TB, blood culture was sent to lab for evaluation.

Blood cultures grew *Klebsiella pneumoniae* on day 2. Patient was given polymixin, doxycycline as per sensitivity report. Patient improved by day 6 but again developed cough and fever.

Sputum smear examination revealed Gram positive branching, thin filamentous structures resembling *Nocardia* sp and modified AFB smear showed acid fast branching filamentous structure as seen in Fig. 1a and b.

Chest X ray and CT scan was done during course of stay. CT scan of thorax was suggestive of mass like consolidation involving apico-posterior segment of left upper lobe as shown in Fig. 1c and d. Repeated sputum smear examination revealed Gram positive branching thin filamentous structures resembling *Nocardia* sp. so the patient was started on cotrimoxazole.

Patient was followed up and repeat X rays and CT scan after 3 months was suggestive of complete resolution of mass like consolidation and residual post infective fibrosis as shown in Fig. 1e and f. Patient improved completely without any sequelae.

Nocardia infection generally occurs in immunocompromised host and can present as lung infection. Most cases have an underlying illness including renal transplantation, hemato-oncological disease, human immunodeficiency virus infection, and long-term steroid therapy. Diagnosis of pulmonary nocardiosis depends on the isolation or demonstration of the organism from respiratory secretions such as sputum or tissue specimens.²

Treatment guideline have included steroid as therapy for Covid -19. Corticosteroids, though not approved by IDSA, were widely prescribed to prevent the development of ARDS in patients with COVID-19 pneumonia.³

Corticosteroid has a disadvantage of masking signs of current infection. It can exacerbate the latent infections, including those caused by Amoeba, Candida, Cryptococcus, Mycobacterium, *Nocardia*, Pneumocystis, Toxoplasma, and fungal infection.⁴ There is currently dearth of data regarding complication with steroid therapy in Covid patients.

This is first case report where patient after treatment of Covid 19 presented with symptoms of pneumonia. Extensive

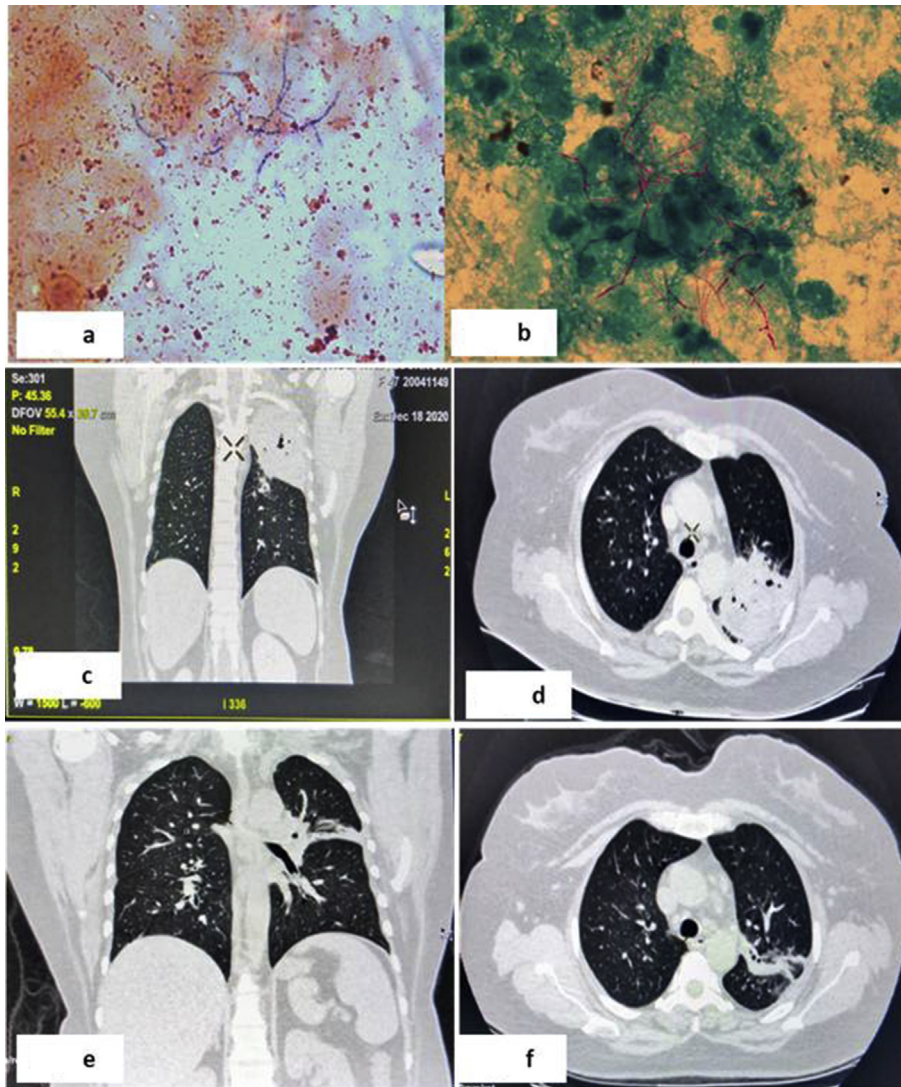


Fig. 1 – a–b:Gram positive and modified ZN smear showing acid fast branching filamentous structure, Fig. 1 c–d CT: mass.

work up confirmed nocardial infection. This case shows the importance of considering Nocardial infection as a differential diagnosis in post covid patients presenting with pneumonia. Those patients wherein steroid was added during covid treatment can later present themselves with pulmonary disease or sometimes non resolving pneumonia. In these cases all the opportunistic pathogens must be ruled out before starting any definitive therapy.

Availability of data material

All data presented in paper.

Consent to publish

Yes.

Conflicts of interest

The authors have none to declare.

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