

Clinical Case

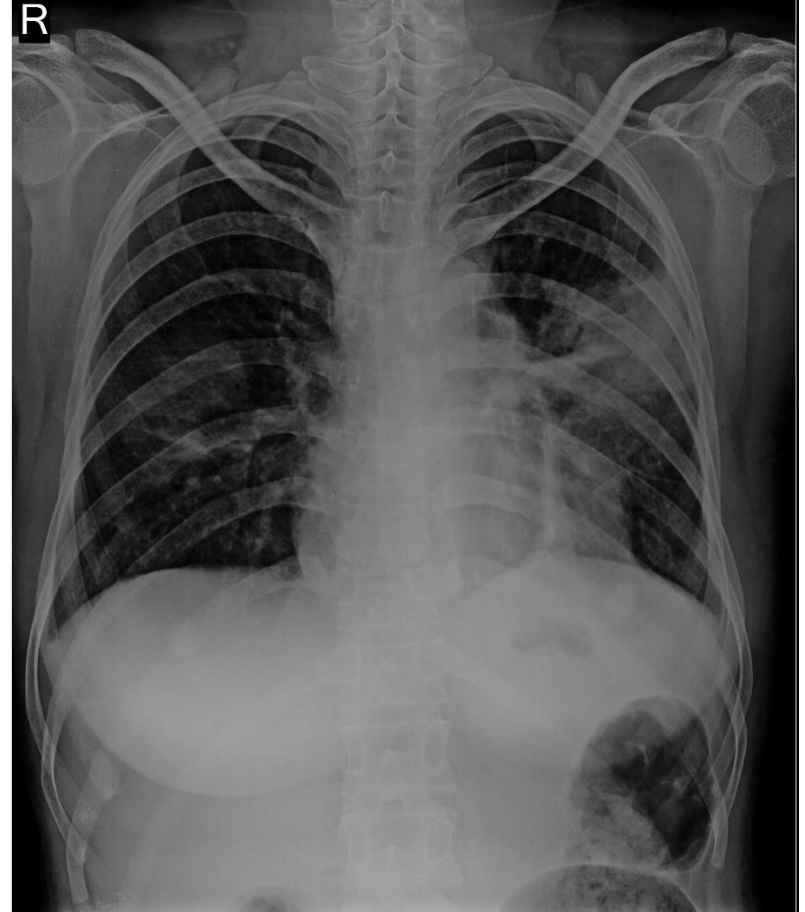
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Case

- 42 year old lady , Uttar Pradesh
- Background of :
 - DM Type 2 (Uncontrolled)
 - Status post Renal transplant (2019)
 - On Tacrolimus, Prednisolone, Valgancyclovir
 - Presented with complaints of fever 2 weeks, cough with no expectoration, dyspnea on exertion since 4-5 days
 - Worsening right chest pain with inspiration since 2 days

- Physical examination:
 - Febrile
 - HR: 120/min, BP: 100/60 mm Hg
 - SpO₂: 95-96%
 - Bilateral crepts
 - No neurological deficits

- Hb : 9.2 gm%
- TC: 3500/cmm
- DC:65/25/3/2/0
- Platelets: 3.25 lakhs/cmm
- RBS: 450mg/dl
- CRP: 225 mg/L
- CXR: Left mid zone opacity

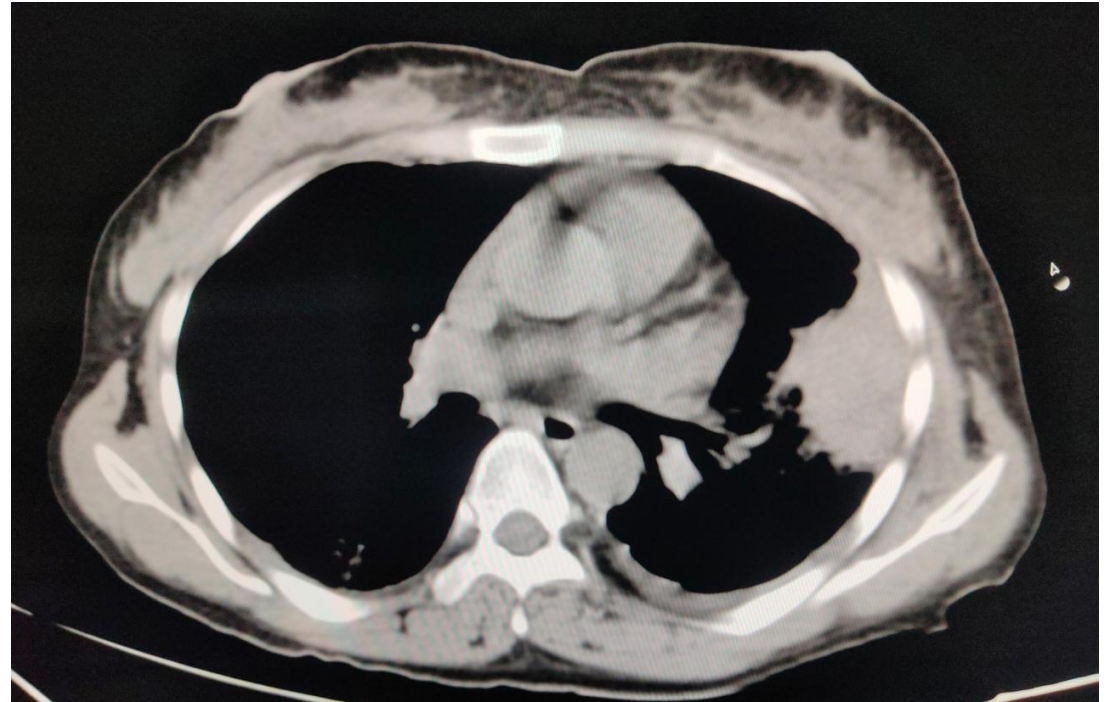
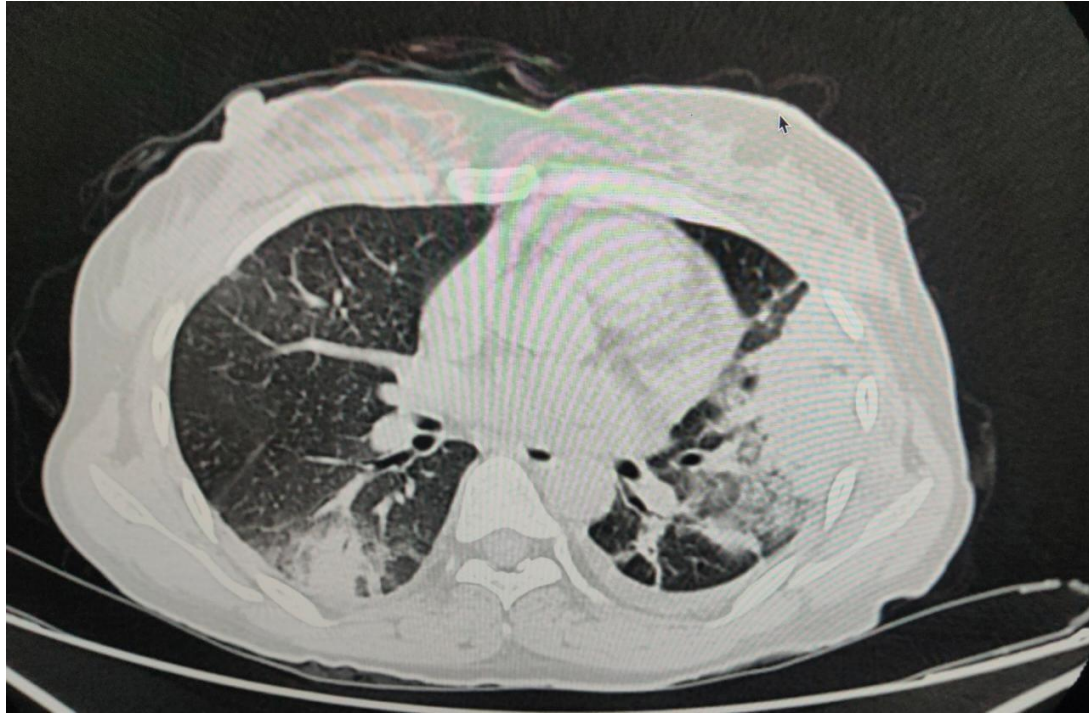


- Syndromic diagnosis:
 - Pneumonia in a immunosuppressed patient v/s Community acquired pneumonia
- Differential diagnosis:
 - Pyogenic /Atypical bacterial
 - Mycobacterial(M Tb/NTM)
 - Invasive aspergillosis

Further progress

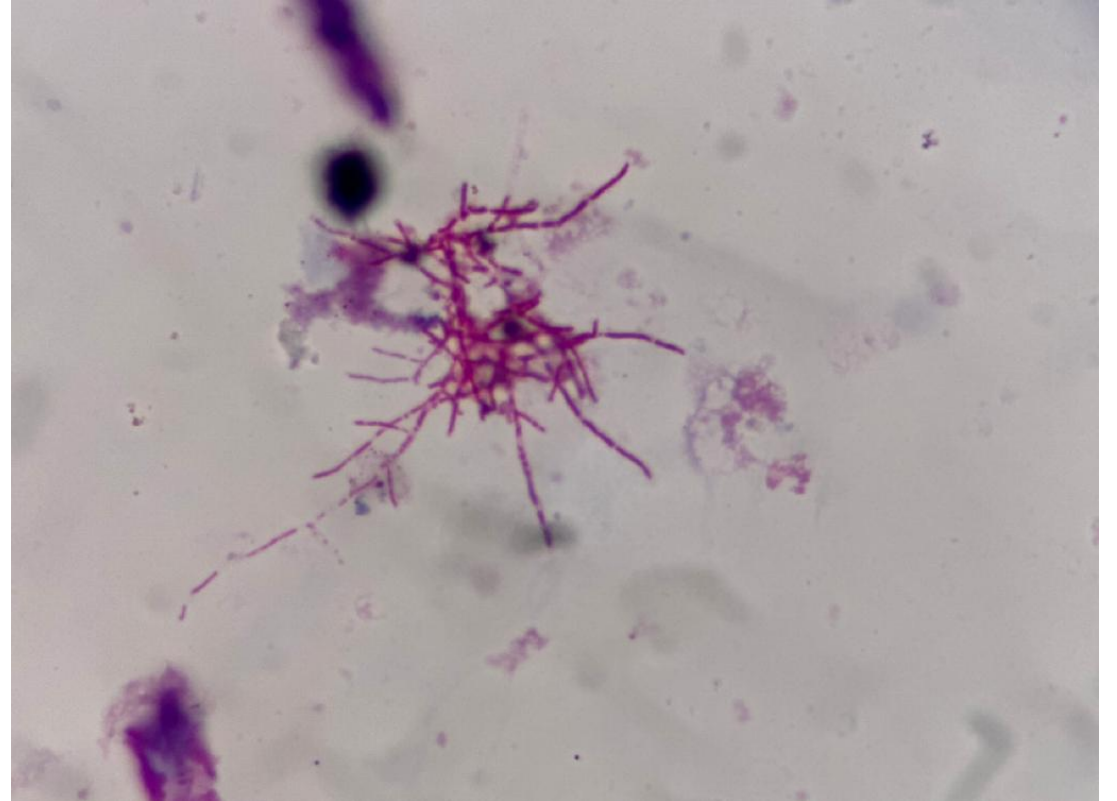
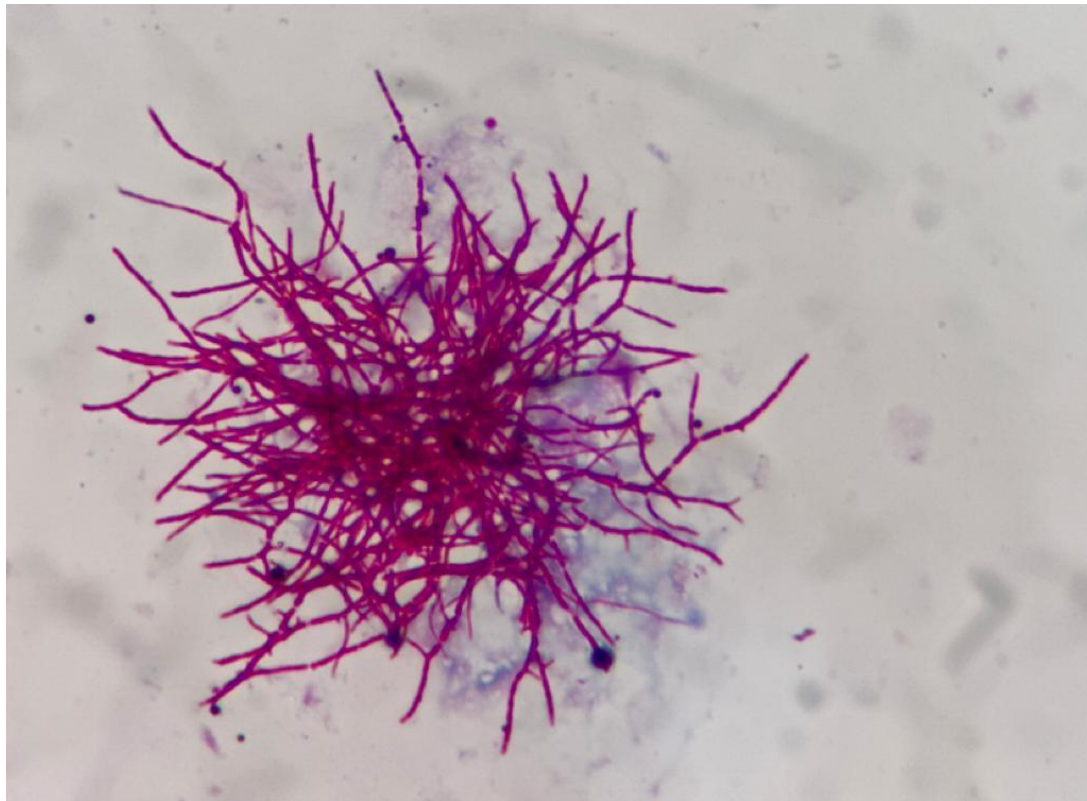
- Was started on Beta lactum plus macrolide anti biotics
- No clinical improvement
- Serum Galactomanan: 0.45 mg/l
- 1,3 BDG : <60
- Normal pneumoslide panel
- U/W a HRCT scan

HRCT: Bilateral consolidation



- Underwent CT guided biopsy of the Lung as the lesion was peripheral
- Histopathology: Necrotising granulomatous inflammation
- Tissue Gene Xpert negative
- Tissue fungal c/s negative
- Tissue: Gram positive thin branching filaments s/o *Nocardia* spp

Gram positive thin branching filaments- Nocardia



Identification by MALDI TOF

TEST	RESULTS	UNIT	BIOLOGICAL REF RANGE	REMARKS
Identification By MALDI TOF (Mass Spectrometry)				
Specimen	Tissue			
Identification By Maldi TOF (Mass Spectrometry)	Nocardia cyriacigeorgica			
Note	Score: 1.81			

Method: Matrix-assisted laser desorption ionization Time-of-flight (MALDI TOF) Mass spectrometry. Bruker.

ID/DST of Nocardia

Specimen	TISSUE
Organism	Nocardia cyriacigeorgica
Linezolid (1 - 32)	S (2)
Trimethoprim / Sulphamethaxole (0.25/4.75 - 8/152)	S (0.5/9.5)
Ciprofloxacin (0.12 - 4)	R (4)
Imipenem (2 - 64)	R (64)
Moxifloxacin (0.25 - 8)	R (8)
Cefepime (1 - 32)	R (32)
Cefoxitin (4 -128)	R (128)
Augmentin (2/1 - 64/32)	R (64/32)
Amikacin (1 - 64)	S (1)
Ceftriaxone (4 - 64)	S (8)
Doxycycline (0.12 - 16)	I (2)
Minocycline (1 - 8)	I (2)
Tigecycline (0.015 - 4)	S (0.5)
Tobramycin (1 - 16)	S (1)

Final Diagnosis

- *Nocardia cyriacigeorgica* pneumonia in Renal allograft recipient /T2D

Further Progress

- She was started on TMP/SMX, Linezolid oral plus iv Ceftriaxone(2 weeks)
- Gradually improved clinically and radiologically
- Currently on TMP/SMX plus linezolid
- Plan is to give above regimen for 6 months in view of ongoing immunosuppression

Nocardia cyriacigeorgica

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- *N. cyriacigeorgica* is an emerging pathogenic entity in USA and a rare occurrence in Indian sub continent
- The number of recognized *Nocardia* species causing infections is also increasing
- Accurate and timely identification of nocardiae is important because the pathogenic potential between species varies and because the species identity provides a critical guide for physicians in the choice of targeted therapy

- Amikacin plus a beta-lactam (ceftriaxone or imipenem) are typically added to TMP-SMX to ensure the susceptibility of all *Nocardia* spp. to at least two antimicrobials
- Because of its distinct and favorable antimicrobial susceptibility pattern, the specific identification of *N. cyriacigeorgica* may improve clinical management
- However, an optimal management protocol for nocardiosis has not been defined, and guidelines for specific treatment by species are needed

Acknowledgements

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