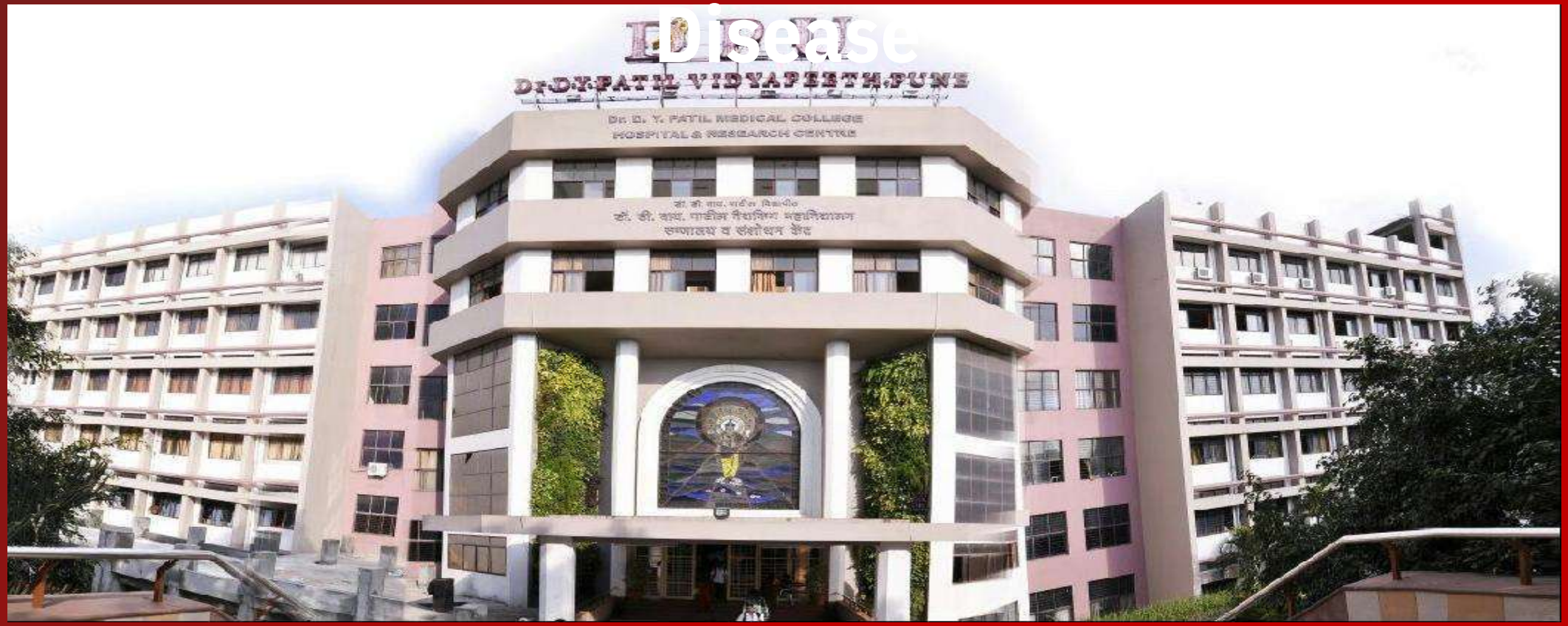
A Rare Presentation of a Common Disease



DR. SNEHA DEORE
RESIDENT
DEPARTMENT OF RESPIRATORY MEDICINE

- **36-year- Old Female, Homemaker.**
- **No known co-morbidities.**

Chief Complaints-

- Breathlessness -20 days (mMRC grade 4).
- Fever -7 days (low grade, not associated with chills).
- Dry cough -5 days
- Loss of appetite
- No history of hemoptysis, wheeze , orthopnoea or palpitations.

Clinical Examination

- Temperature - 98.6 F
- Pulse rate - **138 beats/min**
- RR - **45/min**
- BP - **90/70 mm of Hg**
- Spo2 - 95 % on NIV PS MODE

- Respiratory system- NVBS breath sounds, Diffuse coarse crackles.
- Rest other systemic examination –NAD.

Laboratory Investigations

On Admission	
Hb	**10.30**
TLC	9,700
PLT	3.86,000
Na+	139
K+	4.2
RFT	WNL
LFT	WNL

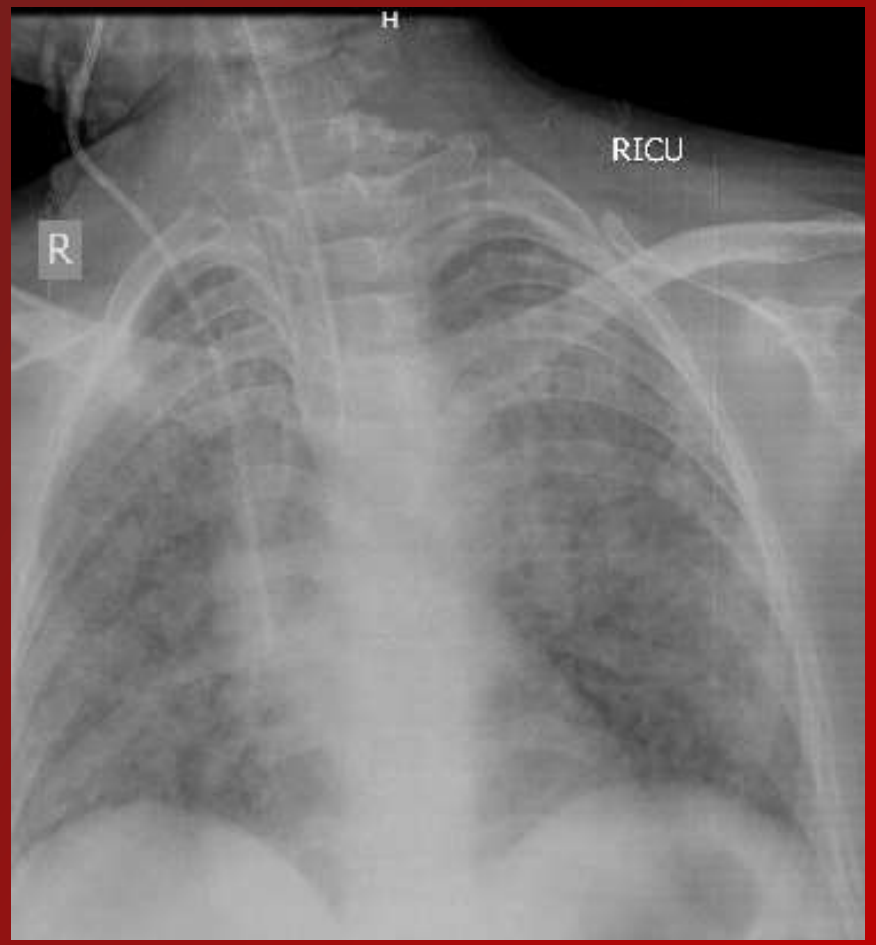
ABG	On Admission
pH	7.37
pCO2	36
pO2	73
HCO3-	21.8
Lac	1.0
SO2	94%
P/F Ratio	121
FiO2	**60%**

Throat Swab Viral Panel
Negative

Procalcitonin
Negative

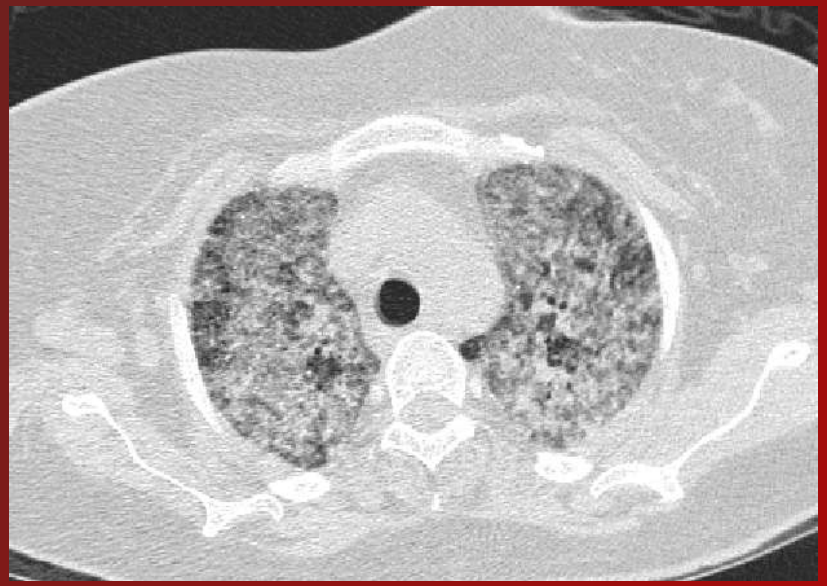
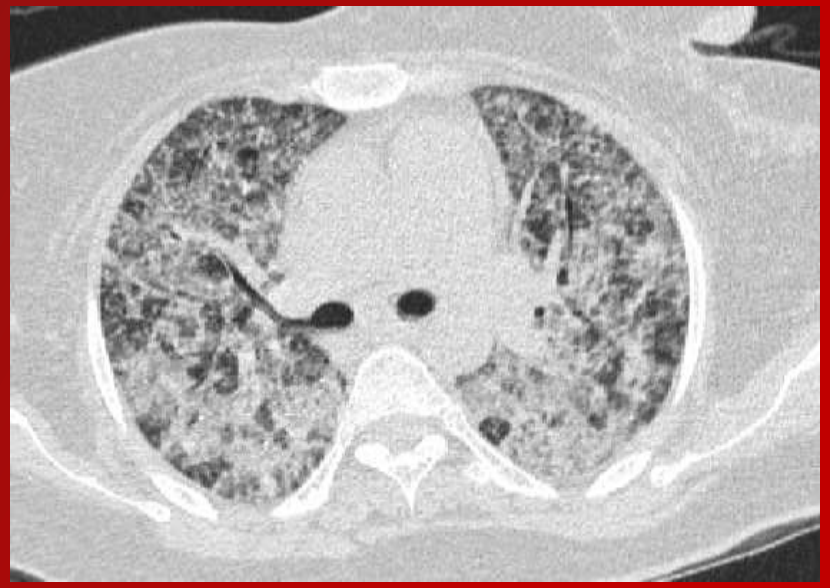
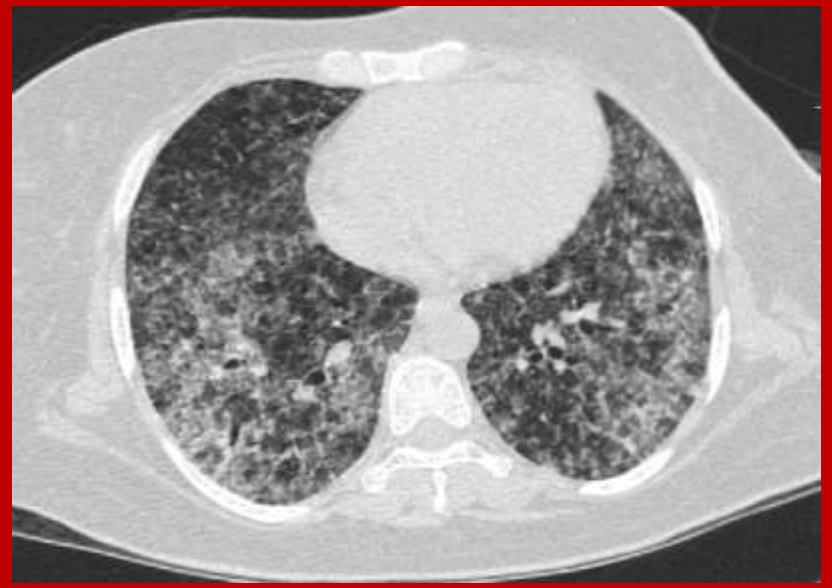
ABG was suggestive of **Acute Hypoxemic Respiratory Failure** with P/F of 121.

Radiological Investigations



On Admission

Bilateral diffuse alveolar opacities.

HRCT Chest

Diffuse areas of ground glass opacities and interlobular septal thickening with few foci of consolidation in both lungs (upper lobes more than lower lobes).

Initial Clinical Diagnosis

Moderate Acute Respiratory Distress Syndrome

Differential Diagnoses →

1. Viral Pneumonia
2. Acute Interstitial Pneumonia

Course in Hospital

Patient was admitted to RICU ,was started on NIV PS Mode and started on Inj Piptaz, Inj Teicoplanin, Cap Fluvir and steroids

↓

Patient was intubated in view of **worsening of hypoxia**

↓

Cardiology consultation

2D Echo- EF 60% NO RWMA NO MS NO AR/AS MOD PAH RVSP 50mmhg

Course in Hospital

To rule out vasculitis and other autoimmune disorders **RA**

Factor, Anti-CCP and ANCA was done.

All negative.

ANA Blot showed weak positivity for **Scl 70** and **Mi2** were suggestive of Dermatomyositosis

Course in Hospital

For confirmation of diagnosis **FOB BAL + TBLB** was done

↓

Post TBLB patient had an episode of desaturation

↓

Clinically diagnosed as pneumothorax (a known complication)

↓

Tube thoracostomy was done and post procedure the lung expanded

Course in Hospital

No response to medical management

↓

BAL CBNAAT - MTB [LOW DETECTED] Rifampicin sensitive
BAL ZN stain – NO AFB seen

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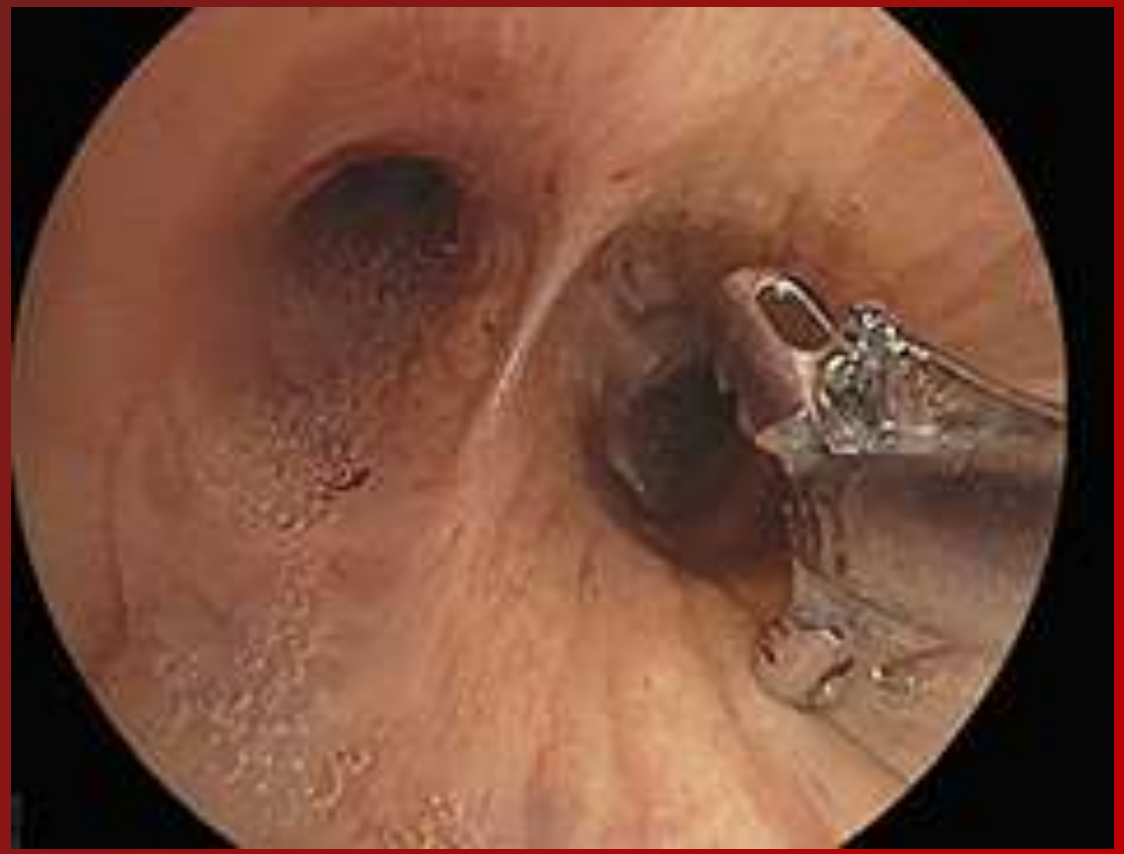
Since radiological and clinical picture weren't suggestive of TB, AKT was not started

Course in Hospital



TRANSBRONCHIAL LUNG BIOPSY WAS A **BIG SURPRISE**

↓

Necrotizing granulomatous inflammation

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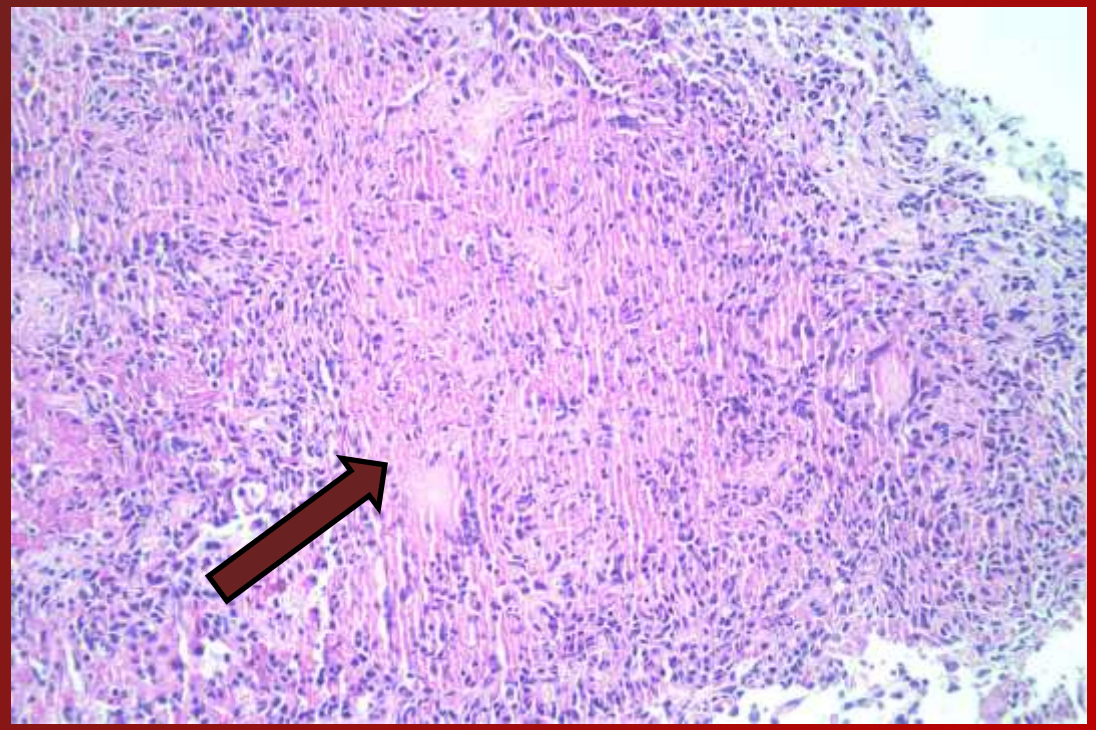
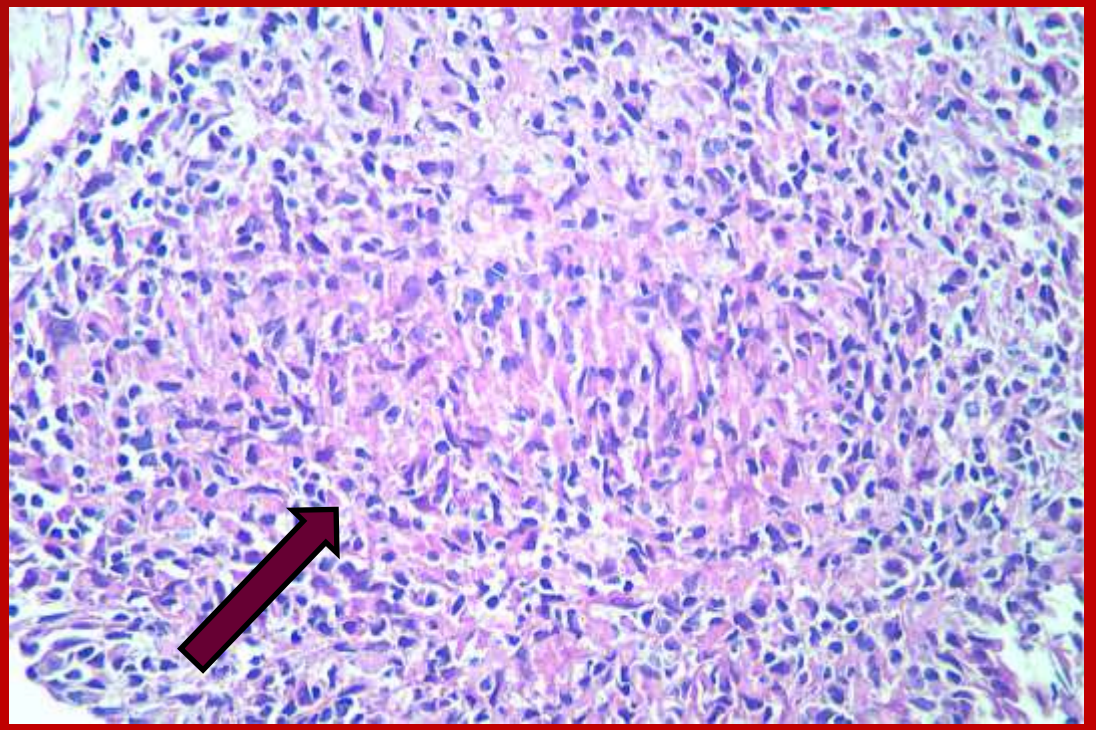
Suggestive of active mycobacterium etiology.

Course in Hospital



HPE shows granulomas.



HPE shows epithelioid cells.

- Section shows ***multiple confluent granulomas*** composed of ***epithelioid and Langerhans giant cells*** with foci of caseous necrosis are seen.
- Fungal elements and neoplastic elements were not seen.

Course in Hospital

Patient was started on AKT

4 days after initiation of AKT, patient developed septic shock likely due to secondary infection (TLC: 17,500) and her condition gradually deteriorated and ultimately she succumbed to her illness.

Discussion

Tuberculosis (TB) presenting as acute respiratory distress syndrome (ARDS) is a rare but serious clinical entity, often leading to diagnostic challenges, unlike bacterial or viral pneumonia.

TB typically follows a more chronic disease course, making its association with ARDS uncommon and frequently overlooked.

Many other infectious and non-infectious conditions, such as bacterial sepsis, viral pneumonitis, and autoimmune diseases, can mimic TB-ARDS, leading to misdiagnosis if ATT is started prematurely.

Discussion

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BRIEF REPORT

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Experience with ARDS caused by tuberculosis in a respiratory intensive care unit

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Abstract *Objective:* Acute respiratory distress syndrome (ARDS) is an important cause of morbidity and mortality in intensive care units. Tuberculosis (TB) commonly causes respiratory failure in patients with extensive pulmonary parenchymal involvement, but it is a rare cause of ARDS. We report our experience of TB presenting with ARDS. *Methods:* Retrospective analysis of 187 patients admitted with a diagnosis of ARDS over the previous 7 years. Data are presented in a descriptive fashion using mean±SD or median (range). *Results:* Nine (4.9%) of 187 patients had ARDS secondary to tuberculosis. All patients were mechanically ventilated. The diagnosis was made on clinico-radiological grounds and confirmed later using fiberoptic bronchoscopy and transbronchial biopsy in seven patients, and lymph node biopsy and examination of the joint aspirate in the remaining two. All patients were empirically started on anti-tubercular therapy with a median time to initiation of therapy being 3 days (range 2–8 days). Three patients had multi-organ dysfunction syndrome (MODS) without any evidence of bacterial infection. Seven of nine (77.8%) patients survived; two died because of severe ARDS, MODS, and respiratory failure. *Conclusions:* Tuberculosis is an uncommon but definite cause of ARDS, and in patients with ARDS of obscure aetiology where the clinical features suggest tuberculosis as the inciting cause, antitubercular therapy should be started empirically and the diagnosis actively pursued later.

Keywords Tuberculosis · ARDS · Outcome

The largest retrospective study of **187** ARDS patients found **9** (4.9%) cases due to tuberculosis.

Most of the cases were diagnosed on the basis of F/B +BAL+TBLB.

The study emphasizes considering TB in ARDS of unclear cause.

Clinical Pearls

TB can present as ARDS

Always consider tuberculosis in ARDS, in unknown etiology especially in endemic regions.

Tissue diagnosis is key

Use TBLB or CT-guided biopsy if microbiological tests are negative, should be considered if there is strong clinical and radiological suspicion of TB

Role of CBNAAT in diagnosis of TB

Low MTB detected or indeterminate can be false positive.
AKT should not be started in such cases if clinical and radiological picture are not suggestive Tuberculosis.

THANK YOU