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Medicine

ACUTE INTERSTITIAL PNEUMONIA (AIP) – SOLITARY CASE

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ABSTRACT AIP is a rare, severe lung disease, usually affects otherwise healthy individual. We present a case of an adult male with Type 2 Diabetes Mellitus and Hypertension who reported with fever, cough and breathlessness of 4-5 days duration and was diagnosed to have Acute Interstitial Pneumonia (AIP).

KEYWORDS : AIP, ARDS, DAD

Introduction

Acute Interstitial Pneumonia (AIP) is rarely detected in clinical practice (prevalence is 1 in 25, 000). It affects any age or gender and is often preceded by a viral/flu like prodromal phase followed by acute onset of dyspnoea and cough and/or fever. Most patients are hypoxic at room air and nearly all require mechanical ventilation. We are reporting a case of AIP at a hospital in North-Eastern sector of India, who presented with features of upper respiratory tract infection (URTI) initially followed by clinical and radiologic picture of Acute Respiratory Distress Syndrome (ARDS).

Case Report

A 50 years old male, a known case of Hypertension and Type 2 Diabetes Mellitus, presented with fever and cough of 3 days duration followed by breathlessness at rest. On initial examination at emergency room patient was normotensive, tachypneic (RR-26/min), febrile (temp-101° F) with SpO2 of 77% at room air with coarse crackles and rhonchi in respiratory system examination. Other systemic examinations were essentially normal.

Investigations were nonspecific with mild Leukopenia (TLC-3600/cumm), mild Neutrophilia (85%) and Transaminitis (AST/ALT-118/86 IU/L), ESR-10 mm fall in 1st hour; Dengue and Malaria serology were Negative; Rheumatoid factor/ANA- Negative; HBsAg/AntiHCV/ HIV-Negative; USG-Abdomen-Normal study; CXR-reticular opacities in both lower zones. Patient was managed as a case of atypical pneumonia with antibiotics, Oseltamivir and oxygen therapy, but remained tachypnoeic and hypoxic (SPO2 <90%). HRCT Thorax was performed (Figure 1), which was suggestive of AIP. Cultures of blood, urine and tracheal aspirate were sterile. H1N1 testing was negative. High dose steroid was added. Despite all these measures clinical condition of patient deteriorated and patient was initially put on non-invasive ventilation (NIV) followed by controlled mode ventilation (CMV). But despite FiO2 of 1.0, patient remained hypoxemic and developed hypercapnia with respiratory acidosis. Patient developed hypotension and multi-organ failure, with acute kidney injury and ischaemic hepatitis. Patient expired after 07 days of admission to intensive care unit.

Autopsy was performed and lung biopsy was suggestive of diffuse alveolar damage (Figure 2 and 3).

Discussion

AIP is a rare and severe lung disease which presents as acute hypoxic respiratory failure with bilateral lung infiltrates and fulfil the clinical criteria for ARDS. It is an acute form of Idiopathic Interstitial Lung Disease/Idiopathic Pulmonary Fibrosis (IPF). It is often preceded by URTI, followed by acute onset of dyspnoea and cough and/ or fever. [1,2, 3] Duration of symptoms is usually 2-11 days. Most patients are hypoxic at room air and nearly all require mechanical ventilation.[4]

Laboratory investigations are nonspecific and unhelpful. [2] Radiology (Chest X-ray and HRCT-Chest) shows bilateral lung infiltrates with ground glass opacities and /or air space consolidation. Key diagnostic criteria is histological findings of Diffuse Alveolar Damage (DAD). Pathologically, there is damage to both alveolar epithelium as well as alveolar capillary endothelium followed by hyaline membrane formation and subsequent fibroblast proliferation within the interstitium.[5,6,7]

AIP is the diagnosis of exclusion i.e. exclusion of ARDS, infections, CCF, acute exacerbation of IPF and DAD due to known causes. Virtually all patients of AIP fulfil the clinical diagnostic criteria of ARDS.

There is no proven effective therapy for AIP.[2] High dose steroids are of unproven benefits and virtually all patients require mechanical ventilation. Most patients of AIP die of acute respiratory failure or its complications despite mechanical ventilation and high dose steroids.[2, 3, 6] Approximately 50% patients die within 2 months. Mortality in majority of case series is 50-100%.

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Nil

Conflicts of interest

There are no conflicts of interest.

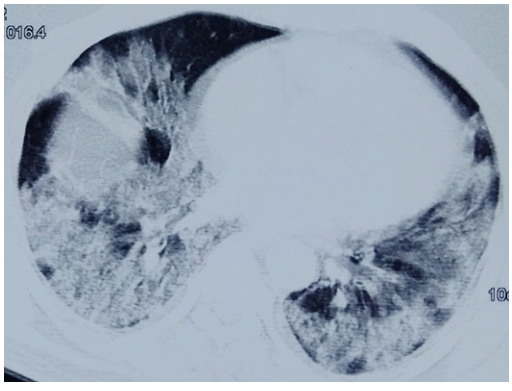
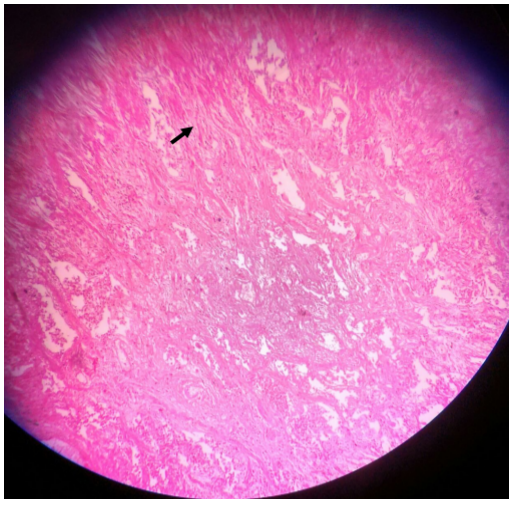
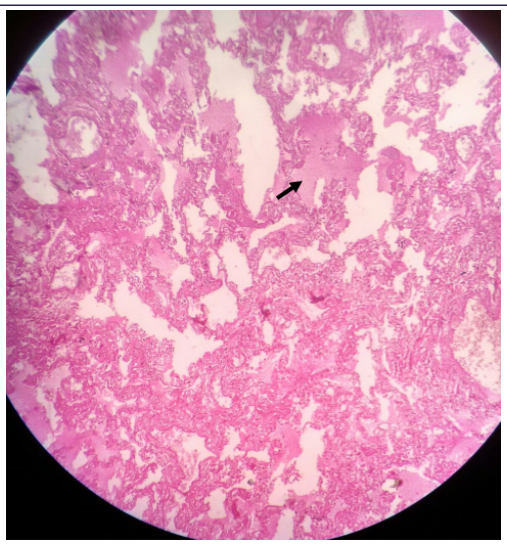


Figure 1: Diffuse ground glass opacities with



(Figure 2: Fibrosis)



(Figure 3: Hyaline membrane)

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