

# Amiodarone Induced Pulmonary Toxicity versus COVID-19 Pneumonia: A Diagnostic Dilemma

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## Introduction

- Amiodarone -induced pulmonary toxicity (AIPT) is a well-known complication of this otherwise life-saving drug
- Whereas this can be identified with the help of clinical and radiological features, it can present as a diagnostic dilemma especially under the current COVID-19 pandemic setting

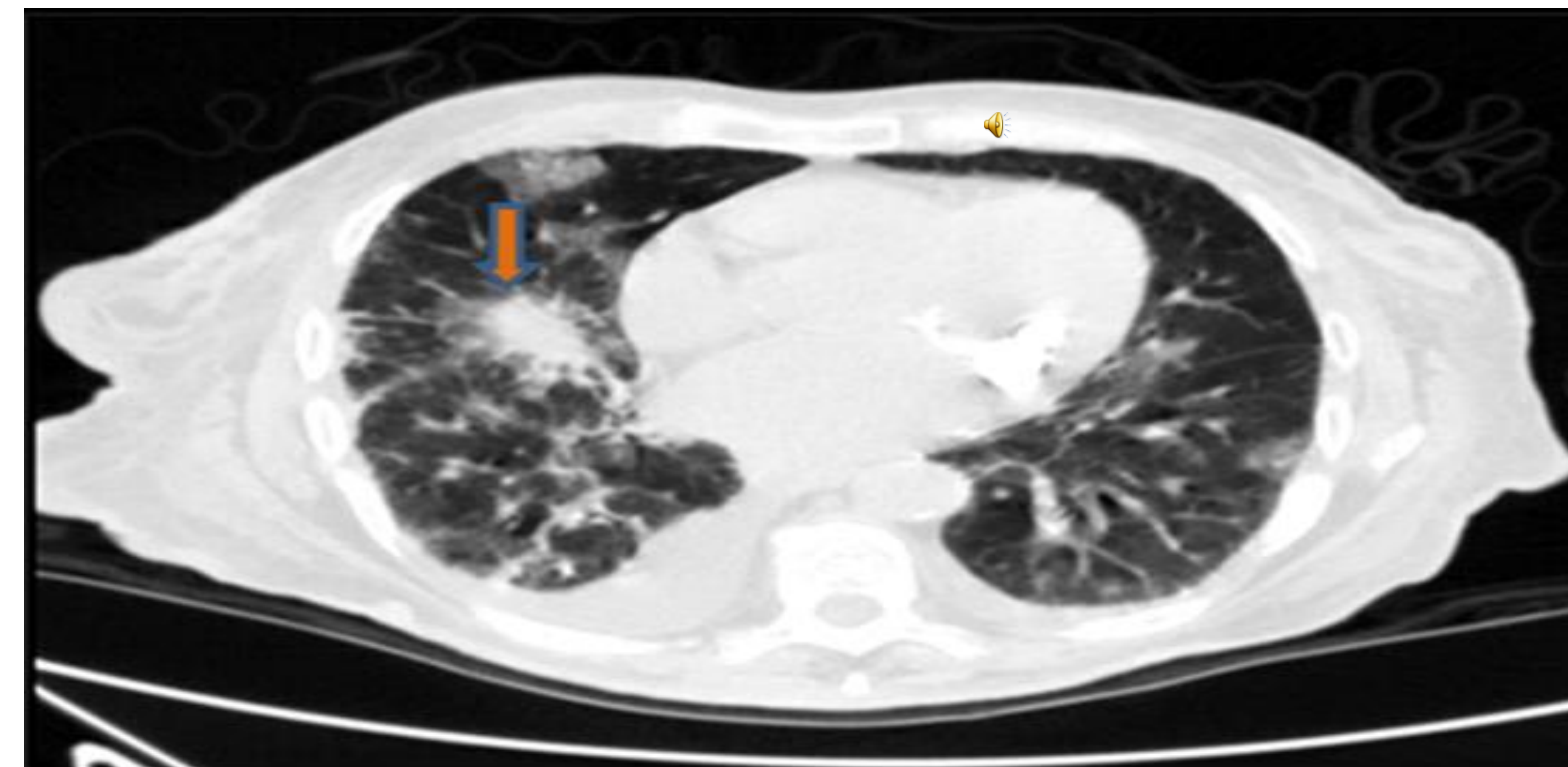


CT Chest (Fig 2A)

## Case Presentation

- A 79-year-old female with recently diagnosed persistent Atrial Fibrillation and Alzheimer's dementia presented with progressive shortness of breath
- Due to rapidly progressive acute hypoxic respiratory failure patient was intubated and transferred to ICU
- Laboratory workup revealed lactic acid 2.4 mmol/L, ESR 16 mm/hr, CRP 6.6 mg/dl, AST 142 unit/L, ALT 33 unit/L, Total bilirubin 3.4 mg/dl
- Chest X-ray (Fig 1) showed right upper lobe and perihilar infiltrates with bilateral lower lobe opacities
- CT Chest (Fig 2A, 2B) with contrast revealed bilateral patchy infiltrates with some areas of ground-glass opacification

- Respiratory viral panel and COVID PCR tests were negative
- She was treated with maximal bronchodilator therapy and intravenous dexamethasone for presumed COVID 19 pneumonia
- Broad-spectrum antibiotics were added for the possibility of superimposed bacterial pneumonia
- It was found that the patient had started Amiodarone therapy 6 months ago adding AIPT to the differentials
- Amiodarone therapy was discontinued on hospital day 2
- The patient's condition continued to decline and the family opted for compassionate extubation on day 4 of hospitalization

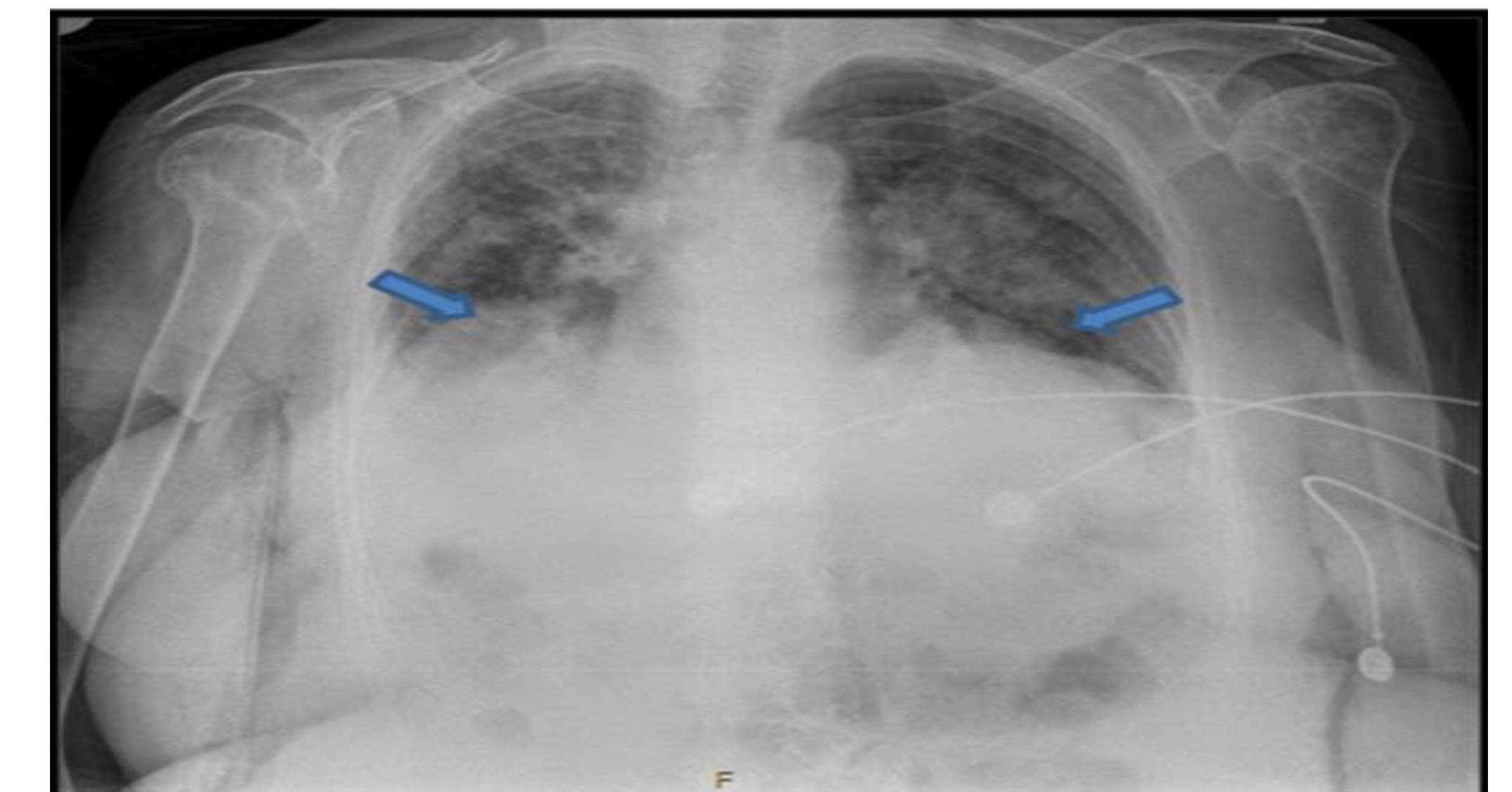


CT Chest (Fig 2B)

## Discussion

- Over the last 18 months, COVID-19 pneumonia is perhaps the most commonly seen pathology in the ICU setting
- Salient radiological features include bilateral patchy ground-glass opacities with a predominantly peripheral distribution <sup>1</sup>
- AIPT, although rarely encountered, can present with similar radiological findings
- The common presentation of AIPT includes progressive dyspnea, dry cough, fatigue, and pleuritic chest pain

- Retrospective studies have shown the incidence of pulmonary toxicity with Amiodarone to be 1%-10%
- AIPT is duration and dose-dependent with presentations up to 2 years from initiation of therapy <sup>2</sup>
- Moreover, older patients can present with more severe diseases
- Higher mortality has been noted with patients presenting with ARDS
- Most patients improve on discontinuation of the drug
- In our case, Amiodarone therapy was discontinued on the second day of admission however the patient continued to deteriorate due to severe ARDS
- The patients' history of being recently started on Amiodarone with previous multiple negative COVID 19 PCR and no other identifiable cause of his ARDS, makes AIPT a highly probable diagnosis
- Although bronchoalveolar lavage and lung biopsy could have been added to the workup, they were not considered due to patients' rapid decline
- Therefore, a high index of suspicion should be kept for alternative etiologies including AIPT in patients with COVID-19 like radiological findings with negative testing



Chest X-Ray (Fig 1)

## References

1. Wolkove N, Baltzan M. Amiodarone pulmonary toxicity. *Can Respir J*. 2009;16(2):43-48. doi:10.1155/2009/282540
2. Ernawati DK, Stafford L, Hughes JD. Amiodarone-induced pulmonary toxicity. *Br J Clin Pharmacol*. 2008;66(1):82-87. doi:10.1111/j.1365-2125.2008.03177.x