



CT CHEST FINDINGS IN COVID-19 PATIENTS : CASE SERIES

General Medicine

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ABSTRACT

COVID-19 (Corona virus disease 2019) first reported in Wuhan, China in December 2019, has spread all over the world in months. It has entered India and Mumbai, Maharashtra is affected by it, the most. Chest computed tomography can be used as tool in diagnosing COVID-19 where real-time reverse transcription polymerase chain reaction assay can have its limitations.

KEYWORDS

CT, COVID-19

INTRODUCTION

In India, Maharashtra recorded its first pandemic confirmed case of COVID-19 in Pune, on 9th march 2020 from a couple returning from Dubai and on 11th march 2020 two positive cases reported in Mumbai who were linked to Pune couple.^{1,2,3}

COVID-19 is the seventh of coronavirus to infect humans till date.⁴ Patients suffering from COVID-19 can be asymptomatic or to be suffering from fever, cough and breathlessness progressing to death. As a treating physician and keeping in mind the clinical course and severity of the novel coronavirus, it is important to make a diagnosis on CT chest.

We present three confirmed case series of COVID-19 patients from HBT Trauma care hospital, Mumbai.

Case 1:

A 48 years old male got admitted in hospital with complaints of moderate grade fever, cough which was of dry type since five days and breathlessness which had progressed over days. His CT chest (Fig 1a,b) was done which showed peripheral consolidation and crazy paving pattern consolidation at basal and posterior lung distribution.

Case 2:

A 63 years old female was admitted with complaints of malaise, moderate grade fever, dry cough and breathlessness. Her CT chest (Fig 2a,b) was done which showed ground – glass opacification, atoll sign and basal lung consolidation.

Case 3:

A 42 years old female was referred from a private hospital with complaints of rapid progression of breathlessness along with history of cough with expectoration, high grade fever and malaise. Her CT chest (Fig 3a,b) was done which showed crazy-paving pattern of opacities and consolidation involving the peripheral, basal and posterior distribution of lungs.

DISCUSSION

Causative agent :

Coronavirus has derived its name from its crown-like appearance with multiple spikes on the surface, it is an enveloped virus with positive sense single stranded RNA genome. It has four major groups (alpha, beta, gamma and delta). COVID-19 is the latest addition to this group of virus. Ideally these coronavirus are zoonotic virus and can spread from animals to humans, only in the last two decades they have been transmitted from human to human. Middle east respiratory syndrome coronavirus 2012 reported from Saudi Arabia (transmitted from

dromedary camel) and Severe acute respiratory syndrome coronavirus reported from China 2002(transmitted by civet cats) were the previous two human coronavirus with mortality.^{6,7}

Clinical features and pathogenesis :

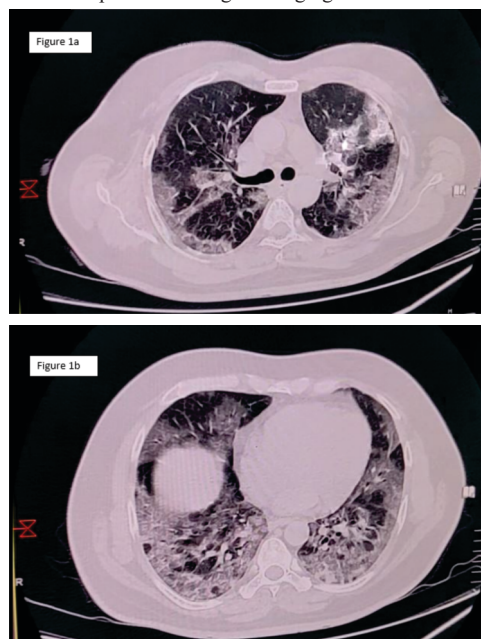
The most common clinical presentations include fever(83%), cough(82%) and shortness of breath(31%). The severity ranges from patient being asymptomatic or patient succumbing to death.⁸ The COVID-19 virus targets the respiratory system causing severe pneumonia, cardiac injury and release of cytokines and chemokines.⁹

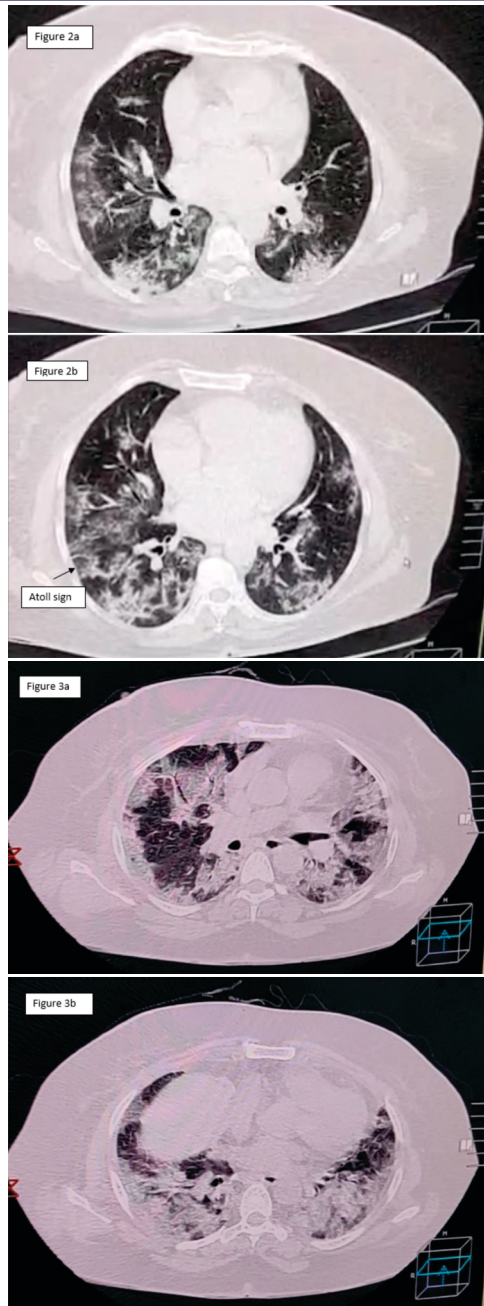
CT Chest :

In our case series we found multiple patchy consolidation mostly affecting the peripheral, posterior and basal segments of the lungs associated with crazy-pavement like, ground glass opacities and atoll sign which are all significant with previously described coronavirus pneumonia(SARS and MERS)^{10,11}

CONCLUSION

CT Chest can play an important role in early diagnosing of COVID-19 infection with its peculiar findings in imaging studies.





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