

SAMPLE CASE SERIES

Title: Computed Tomography Findings in Five Patients with COVID-19 Pneumonia: A Case Series

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Structured Abstract

Background: Chest computed tomography (CT) played an important role in evaluating pulmonary involvement during the COVID-19 pandemic. This case series describes the common CT imaging findings observed in patients with laboratory-confirmed COVID-19 infection.

Case Descriptions: Five adult patients presenting with fever, cough, and shortness of breath underwent high-resolution CT (HRCT) of the chest. Clinical presentation, laboratory findings, and imaging characteristics were reviewed and compared.

Results/Findings: Ground-glass opacities were observed in all five patients, predominantly involving the peripheral and posterior regions of both lungs. Three patients also demonstrated patchy consolidations, while one patient developed a crazy-paving pattern. CT severity scores ranged from mild to severe and correlated with clinical symptoms.

Conclusion: HRCT demonstrated consistent imaging patterns across all cases and proved valuable in assessing disease severity and supporting clinical management. The findings highlight the importance of CT imaging in identifying characteristic pulmonary abnormalities in viral pneumonia.

Keywords: COVID-19; High-Resolution CT; Case Series; Ground-Glass Opacity; Thoracic Imaging

1. Introduction

Case series provide valuable information about disease presentation, imaging characteristics, and clinical outcomes by analysing multiple patients with similar conditions. During the COVID-19 pandemic, chest CT became an important imaging tool for evaluating pulmonary involvement and disease progression. This case series presents the CT findings of five patients with confirmed COVID-19 pneumonia and highlights the similarities and differences in imaging appearance.

2. Case Descriptions

Case 1

A 45-year-old male presented with fever, dry cough, and mild breathlessness. HRCT demonstrated bilateral peripheral

ground-glass opacities with a CT severity score of **8/25**. The patient recovered with conservative management.

Case 2

A 58-year-old female presented with worsening dyspnoea. HRCT showed bilateral multifocal ground-glass opacities associated with patchy consolidations (CT severity score **15/25**). The patient required supplemental oxygen.

Case 3

A 39-year-old male presented with fever and fatigue. HRCT demonstrated scattered peripheral ground-glass opacities without consolidation (CT severity score **6/25**). Clinical recovery occurred within ten days.

Case 4

A 63-year-old male with diabetes mellitus demonstrated extensive bilateral pulmonary involvement with ground-glass opacities, crazy-paving appearance, and consolidations (CT severity score **20/25**). The patient required intensive care support.

Case 5

A 50-year-old female presented with persistent cough and hypoxia. HRCT revealed bilateral peripheral ground-glass opacities with mild consolidation (CT severity score **12/25**). The patient improved following antiviral therapy and supportive care.

3. Results / Comparative Analysis

All five patients demonstrated **bilateral peripheral ground-glass opacities**, making it the most common imaging finding. Consolidation was observed in three patients, while the crazy-paving pattern was identified in one severe case. Higher CT severity scores were associated with more severe respiratory symptoms and longer hospital stays. Overall, HRCT findings closely reflected the clinical severity of disease and assisted in treatment planning.

Table 1. Summary of Clinical and CT Findings

Cas e	Age/Se x	Main CT Finding	CT Severit y Score	Clinical Outcome
1	45/M	Ground-glass opacity	8/25	Recovere d
2	58/F	Ground-glass + Consolidatio n	15/25	Improved
3	39/M	Ground-glass opacity	6/25	Recovere d
4	63/M	Crazy-paving + Consolidatio n	20/25	ICU Recovery

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5	50/F	Ground-glass + Mild Consolidation	12/25	Improved
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4. Discussion

The imaging findings observed in this case series are consistent with published literature describing COVID-19 pneumonia. Bilateral peripheral ground-glass opacities were the predominant feature, while consolidation and crazy-paving appearance were associated with more advanced disease. HRCT proved useful for evaluating disease extent, monitoring progression, and supporting clinical decision-making. Although imaging findings alone are not diagnostic, they provide valuable information when interpreted alongside clinical and laboratory findings.

5. Conclusion

This case series demonstrates that HRCT consistently identifies characteristic imaging features of COVID-19 pneumonia and provides important information regarding disease severity. Comparative evaluation of multiple cases enhances understanding of disease patterns and supports effective patient management.

6. Patient Consent Statement

Written informed consent was obtained from all patients for publication of their anonymised clinical information and imaging findings.

7. Declarations

Ethical Approval: Approved by the Institutional Ethics Committee where applicable.

Funding: None.

Conflict of Interest: The authors declare no conflict of interest.

Author Contributions: All authors contributed to patient management, data collection, manuscript preparation, and final approval of the manuscript.

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Data Availability: Data supporting the findings of this case series are available from the corresponding author upon reasonable request while maintaining patient confidentiality.

8. References

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