

Lobar expression of SARS-CoV-2 pneumonia

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Accepted 12 May 2021

DESCRIPTION

A 59-year-old man with a personal history of gastritis and pulmonary tuberculosis of the left lung without sequelae 40 years earlier was admitted to the emergency department reporting of high fever (maximum 40°C), dry cough and haemoptysis for the past 5 days. He had been subjected to a SARS-CoV-2 PCR screening test 2 days earlier, with an inconclusive result. Laboratory tests revealed lymphopenia and a mild elevation of hepatic transaminases, lactate dehydrogenase and C reactive protein. The chest X-ray was unremarkable; however, the CT scan revealed a wide area of ground-glass opacity in the right upper lobe ([figure 1](#)). The microscopic screening of the sputum was negative for tuberculosis. The patient was diagnosed with COVID-19 after a now-positive PCR result. He had a favourable evolution, with mild disease and neither respiratory distress nor hypoxemia. He was asymptomatic 5 days later and presented a normal chest X-ray and positive SARS-CoV-2 serology after 1 month of follow-up.

CT imaging has become an important tool in the evaluation of patients with COVID-19. Typical hallmarks of this infection include bilateral, multifocal, lower lobe and posterior-dominant ground-glass opacities and crazy-paving appearance.¹ Lower lobe involvement can be seen in 90% of patients, while 86% present bilateral lesions.² Amorphous patchy, nodular, patchy-nodular and rounded lesions are also commonly found.³ Additionally, more extensive lung

involvement with opacification is associated with dyspnoea and a more severe course of COVID-19.⁴ Isolated upper lobe involvement is infrequent and is more frequently found in early stages of the disease.¹ Moreover, haemoptysis is a rare symptom, reported in less than 5%⁵ of cases, usually associated with a more severe clinical course.⁶

We present a case of isolated right upper lobe involvement that is well limited by its fissure.

Learning points

- ▶ Several patients can present with atypical imagiological findings.
- ▶ Isolated upper lobe involvement is a possible, although infrequent, presentation of COVID-19.
- ▶ Haemoptysis is a rare presentation of COVID-19.

Contributors All authors were involved in patient care and provided contribution in the conception and revising of the work. Detailed contributorship is as follows: DMP: conception, literature review, drafting, final approval. MC: conception, literature review, critical revision of the manuscript, final approval. TM: conception, critical revision of the manuscript, final approval. The submitted manuscript was approved by all authors. All authors are accountable for all aspects of the work.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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REFERENCES

- 1 Ceylan N, Çinkoğlu A, Bayraktaroğlu S. Atypical chest CT findings of COVID-19 pneumonia: a pictorial review. *Diagn Interv Radiol* 2020. doi:10.5152/dir.2020.20355
- 2 Song F, Shi N, Shan F, et al. Emerging 2019 novel coronavirus (2019-nCoV) pneumonia. *Radiology* 2020;295:210–7.
- 3 Pakdemirli E, Mandalia U, Monib S. Characteristics of chest CT images in patients with COVID-19 pneumonia in London, UK. *Cureus* 2020;12:e10289.
- 4 Haseli S, Khalili N, Bakhshayeshkaram M, et al. Lobar distribution of COVID-19 pneumonia based on chest computed tomography findings; a retrospective study. *Arch Acad Emerg Med* 2020;8:e55.
- 5 He X, Cheng X, Feng X, et al. Clinical symptom differences between mild and severe COVID-19 patients in China: a meta-analysis. *Front Public Health* 2020;8:561264.
- 6 Goel H, Gupta I, Mourya M, et al. A systematic review of clinical and laboratory parameters of 3,000 COVID-19 cases. *Obstet Gynecol Sci* 2021;64:174–89.

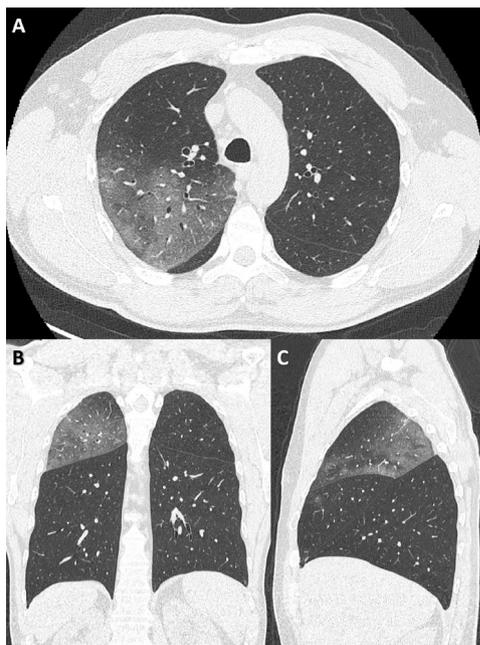


Figure 1 CT scan showing upper lobe COVID-19, bound by its fissures, in the transverse plane (A), coronal plane (B) and sagittal plane (C).



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To cite: Mendes Pedro D, Cunha M, Marques T. *BMJ Case Rep* 2021;14:e242821. doi:10.1136/bcr-2021-242821

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