

LETTER

An unusual case of post-covid-19 polyserositis

Dear Editor,

Most patients positive for SARS-CoV-2 recover completely, albeit some experience post-infection complications. We present an unusual case of post-COVID-19 polyserositis (PS) that posed a diagnostic challenge, resulting in extensive investigations and a prolonged hospital stay.

A 49-year-old male presented with low-grade fever and pleuritic chest pain. He was admitted for intravenous (IV) antibiotics (co-amoxiclav 1.2 g three times daily and clarithromycin 500 mg twice daily) due to an impression of post-viral secondary bacterial infection. Three weeks earlier, he had swabbed positive for coronavirus disease 2019 (COVID-19) in the community. He was asymptomatic at the time of his positive status. On admission, his C-reactive protein (CRP) was raised at 152 mg/L (reference: 0-5 mg/L), and chest x-ray (CXR) reported an ill-defined reticular airspace shadowing left mid to lower zone. The patient's symptoms persisted despite three days of IV antibiotic treatment. Repeat investigations, including cultures, were taken, and all results were normal or negative. His CRP remained elevated at 174 mg/L despite IV antibiotic treatment.

Given his persistent pleuritic chest pain and recent history of COVID-19 infection, a D-dimer was taken and found to be elevated. A computed tomography pulmonary angiogram scan showed a pericardial effusion measuring 23 millimetres with epicardial fat stranding, indicating pericardial inflammation, and small bilateral pleural effusions. Both pleural and pericardial effusions were found to be small for thoracentesis and pericardiocentesis, respectively, after ultrasound assessment.

The case was discussed with infectious diseases, rheumatology, and cardiology. Given all findings, the impression was agreed to be post-COVID-19 PS. He was started on colchicine 500 ug three times daily for three months and ibuprofen 600 mg three times daily for two weeks. Antibiotics were stopped. Viral, autoimmune, and abdominal/pelvic imaging were performed to exclude any other causes of PS.

Inflammatory markers improved within a few days of starting colchicine. He was discharged with a plan to follow up with an echocardiogram, full body positron emission tomography-CT scan, and repeat blood investigations in one month to assess resolution. All these investigations showed a resolution of symptoms, and colchicine was discontinued after three months with no further sequelae.

PS is a challenging and understudied entity, defined as inflammation with an effusion of two or more serous membranes (pleura, pericardium, peritoneum) simultaneously. Causes include autoimmune, metabolic, endocrine, infectious, or malignancy¹. Our literature search found two other case reports of post-COVID-19 PS. The first case reports a 57-year-old female with bilateral pleural effusions and pericardial involvement three months after COVID-19 infection². The other case reports a 60-year-old woman who was admitted to the hospital a few weeks after COVID-19 infection and treated for community-acquired pneumonia. Similarly, the patient was found to have a combination of pleural and pericardial involvement after further work-up was done when her symptoms did not resolve despite antibiotics. Colchicine was effective at resolving her symptoms³.

Post-COVID-19 PS is an exclusion diagnosis that can be made after thorough workup excluding any other causes of PS. Multidisciplinary team discussion of all findings is imperative in such complex cases. From our literature search, this is the third case of such a diagnosis worldwide and the first case in Malta.

Keywords: Polyserositis, Coronavirus disease 2019, COVID-19, post-COVID

References

1. Stoichitoiu LE, Ionescu GD, Neatu I, Baicus C. Causes of Polyserositis: A Systematic Review. *J Pers Med.* 2023; 13: 834.
2. Hernández-Perera JC, Piñero-Pérez D, Martínez-Muñiz JO, Correa-Padilla JM, de Armas-Fernández MC, Jordán-González JA, et al. Polyserositis as a Post-Covid-19 Complication. *MEDICC Rev.* 2022; 24: 57-60.
3. Harris E, Shanghavi S, Viner T. Polyserositis secondary to COVID-19: the diagnostic dilemma. *BMJ Case Rep.* 2021; 14: e243880.

Conflicts of interest

None declared.

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