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Short Communication

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Chronic cough in post-COVID-19 patients

Abstract

A total of 10 patients were studied in a specialized chronic cough clinic for persistent cough following acute SARS-CoV-2 infection were assessed. Socio-demographic data, comorbidities, key characteristics of the cough and SARS-CoV-2 infection, as well as complementary tests relevant to the study of chronic cough, were collected according to the recommendations of the European Respiratory Society.[1] Patients were followed up at 3 and 6 months.

50% of the patients were women, with a mean age of 56.67 years (±11.5) and an average BMI of 29.79 kg/m² (±4.85). The most frequently associated comorbidities were asthma and hypertension (40% each), followed by gastroesophageal reflux disease (20%). Pulmonary function tests showed an FEV1 of 75.2% (±9.92) and a FeNO of 35.66 ppb (±26.87). At the time of the initial evaluation, 70% of patients met the criteria for chronic cough (duration >8 weeks), 30% had COVID-associated pneumonia, and 10% required hospitalization.

Among all patients, 100% had positive IgM and IgG serology against SARS-CoV-2 at the first visit, 87.5% maintained this serology at the 3-month follow-up visit, and 37.5% persisted with this serology at the 6-month visit. Cough resolved in 90% of patients within 6 months. All patients underwent a nasal swab for SARS-COV-2 at 3 and 6 months and these were negative. All patients were ruled out as having other causes of chronic cough.

Chronic cough in post-COVID patients appears to be related to the persistence of IgM+ in SARS-CoV-2 serological studies.

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Long COVID is a term used to describe the presence of various symptoms persisting for weeks or months after contracting a SARS-CoV-2 infection, regardless of viral status. Most individuals with post-COVID syndrome test negative for PCR, indicating microbiological recovery. In other words, post-COVID syndrome represents the temporal gap between microbiological recovery and clinical recovery. Antibody levels may decrease over time, challenging the retrospective diagnosis of a recent SARS-CoV-2 infection.[2]

The prevalence of residual symptoms is approximately 35% in patients treated for COVID-19 on an outpatient basis but rises to 87% among hospitalized patient cohorts. Regarding cough, it may persist for weeks or months after SARS-CoV-2 infection in about 20% of cases. Retrospective studies on post-COVID syndrome report a prevalence of this symptom at 11%, 16%, and 20%.[3]

Currently, the cause or risk factors associated with persistent post-COVID cough are unknown. Therefore, our group aimed to evaluate the clinical and functional characteristics of patients with persistent post-COVID cough and its relationship with SARS-CoV-2 serological status.

A total of 10 patients (50% women) were studied in a specialized chronic cough clinic. All patients were studied following the recommendations of the "ERS guidelines on the diagnosis and treatment of chronic cough in adults and children" (1). As a result, it was obtained a mean age of 56.67 years (±11.5) and an average BMI of 29.79 kg/m² (±4.85). Of these, 40% were former smokers. The most frequently associated comorbidities were asthma and hypertension (40% each), and gastroesophageal reflux disease (20%). Pulmonary function tests showed an FEV1 of 75.2% (±9.92) and a FeNO of 35.66 ppb (±26.87). At the time of the initial evaluation, 70% of patients met the criteria for chronic cough (CC) (duration >8 weeks), 30% had a history of COVID-associated pneumonia, and 10% required hospitalization. Among patients with CC, 100% had positive IgM and IgG serology against SARS-CoV-2 at the first visit, 87.5% maintained this serology at the 3-month follow-up visit, and 37.5% persisted with this serology at the 6-month visit. Cough resolved in 90% of patients within 6 months. All patients underwent a nasal swab for SARS-COV2 at 3 and 6 months and these were negative. All patients were ruled out as having other causes of chronic cough.

The immunological memory of lymphocytes generated after acute exposure is crucial for protecting against severe disease upon re-exposure to SARS-CoV-2. Regarding antibody studies, particularly IgG, it is a characteristic marker in patients recovering from acute SARS-CoV-2 infection. The analysis published by the Cochrane Working Group on COVID-19 Diagnostic Test Accuracy indicates that 90% of individuals recovering from acute infection generate IgG antibodies against SARS-CoV-2, whereas a much smaller percentage develop IgM antibodies, which tend to decline more rapidly.[4] In the following bibliographical references we can see how the IgM and IgG behave over time in post-covid patients.[5-7]

This study observed the persistence and relationship of IgM antibodies in patients with CC secondary to SARS-CoV-2 infection, potentially indicating an immunological signal of long COVID symptoms in these patients. Therefore, CC in post-COVID patients appears to be related to the persistence of IgM+ in SARS-CoV-2 serological studies.

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Conflict of interest

The author states that he has no conflict of interest.

References

1. Alyn H Morice, Eva Millqvist, Kristina Bieksiene, et al. ERS guidelines on the diagnosis and treatment of chronic cough in adults and children. *Eur Respir J*. 2020;55(1):1901136.
2. Prerna Garg, Umang Arora, Arvind Kumar, et al. The "post–COVID" syndrome: How deep is the damage?. *J Med Virol*. 2021;93(2):673–674.
3. Shah AS, Wong AW, Hague CJ, et al. A prospective study of 12–week respiratory outcomes in COVID–19–related hospitalisations. *Thorax*. 2021;76(4):402–404.
4. Fox T, Geppert J, Dinnes J, et al. Antibody tests for identification of current and past infection with SARS–CoV–2. *Cochrane Database Syst Rev*. 2022;11(11):CD013652.
5. Angelo Carfì, Roberto Bernabei, Francesco Landi, et al. COVID–19 Post–Acute Care Study Group. Persistent Symptoms in Patients After Acute COVID–19. *JAMA*. 2020;324(6):603–605.
6. Daniel Stadlbauer, Fatima Amanat, Veronika Chromikova, et al. SARS–CoV–2 Seroconversion in Humans: A Detailed Protocol for a Serological Assay, Antigen Production, and Test Setup. *Curr Protoc Microbiol*. 2020 Jun;57(1):e100.
7. Kelvin Kai–Wang To, Owen Tak–Yin Tsang, Wai–Shing Leung, et al. Temporal profiles of viral load in posterior oropharyngeal saliva samples and serum antibody responses during infection by SARS–CoV–2: an observational cohort study. *Lancet Infect Dis*. 2020;20(5):565–574.

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