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ROUTINE LAB TESTS CANNOT RELIABLY DISTINGUISH LONG COVID FROM OTHER CONDITIONS, NIH STUDY SUGGESTS

Recent findings from the RECOVER-Adult cohort study funded by the National Institutes of Health reveal that none of the 25 standard routine laboratory values can reliably diagnose long COVID, also known as post-acute sequelae of SARS-CoV-2 infection (PASC).

The current challenge is to discover biomarkers that can aid in the rapid and accurate diagnosis of long COVID to ensure that those struggling with the condition receive appropriate care as soon as possible. Long COVID symptoms can impede individuals from returning to work or school and can make daily tasks burdensome, making quick **diagnosis** crucial.

The study evaluated results from standard lab tests, physical examinations, and interview responses of 10,094 adults across 33 states and Puerto Rico who had or had not been infected with COVID-19 in the past six months, from October 2021 to October 2023. Nearly 19% of participants were estimated to have PASC.

Participants, assessed at 83 study enrollment centers, completed surveys every three months and provided blood and urine samples at enrollment and at 6, 12, 24, 36, and 48 months post-infection, but only if prior results were abnormal. Despite proposed models of pathogenesis, including immune regulation, viral persistence, organ damage, endothelial dysfunction, and gut **dysbiosis**, no validated clinical biomarkers for PASC currently exist.

PASC phenotypes were categorized as follows: group 1: Abnormal smell and taste, group 2: Post-infection malaise (PIM), group 3: Brain fog, PIM, fatigue, group 4: Fatigue, PIM, dizziness, brain fog, gastrointestinal symptoms, cardiac palpitations.

Among participants with a prior infection, no significant differences were found in mean lab values between those with a PASC index of 12 or higher and those with a PASC index of zero regarding hemoglobin A1c analysis.

Doctors should continue to order routine clinical lab tests to rule out other **treatable** causes of PASC symptoms, although the 25 routine tests evaluated in the study do not seem useful in defining PASC. Instead, clinicians should focus more on symptoms and their relief rather than relying solely on lab tests.

Understanding the underlying biological bases of persistent symptoms after SARS-CoV-2 infection will likely require rigorous investigation beyond standard clinical lab studies, such as genetic studies, to identify new biomarkers.

Several questions remain unanswered: How well does this study's definition of long COVID align with what is observed in clinical practice? Does symptom severity correlate with lab values? Are there sex-based differences in lab values in long COVID cases? Are there any moments in the **post-acute period** (e.g., within one month of infection) when routine lab test results might differ between those with long COVID versus those without?

Clinicians should consider PASC in the differential diagnosis of symptoms or conditions without an obvious cause, approach symptoms with compassion, and develop symptom relief plans to instill confidence and hope in patients amid the uncertainty of managing this condition.

Adapted after Mary Van Beusekom, MS, 13 August 2024