

Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/clinicians-roundtable/covid-19-recovery-investigating-the-link-between-inflammation-and-cognitive-symptoms/35465/>

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COVID-19 Recovery: Investigating the Link Between Inflammation and Cognitive Symptoms

Announcer:

Welcome to *Clinician's Roundtable* on ReachMD. On this episode, we'll hear from Dr. Jennifer Frontera, who's a neurologist at NYU Langone Health in New York City. She'll be discussing her research on the relationship between inflammation levels and cognitive impairment over time in patients who were hospitalized for COVID-19. Here's Dr. Frontera now.

Dr. Frontera:

So we were interested in looking at inflammation and outcomes after COVID-19, particularly because, in the acute setting, we had seen some data of our own and of other people that really showed that the profound hyperinflammatory response that a lot of patients that had severe COVID requiring hospitalization were undergoing and that this was related to severity of illness. But we also postulated that there might be some association with long-term cognitive outcomes in this patient group. So we took advantage of the CONTAIN randomized clinical trial data and did a post hoc analysis using this data. So CONTAIN was a study of hospitalized patients that required oxygenation support and had COVID, and it looked at giving convalescent plasma versus placebo to those folks and then looked at their long-term outcomes. The parent trial did not find a difference between patients who had received convalescent plasma versus placebo, but it did provide us with a lot of rich data that we could look at in a post hoc fashion. So they had collected, in CONTAIN-Extend—which went through 18 months follow-up—various blood sampling and biomarkers of inflammation, including cytokine panels, but also markers of coagulation like D-dimer, fibrinogen, etc. And the outcomes that they had available were PROMIS metrics for global, physical, and mental health as well as a symptom questionnaire. And so we looked at patients that were noting cognitive symptoms at the 18-month follow-up visit. Because they had sampled blood over different time points, we were able to look at trajectories of those inflammatory markers from baseline through 18 months. Most people had about three time points that we could look at, and what we saw was that the inflammatory markers significantly declined over time from the point of hospitalization up through 18 months. We did not find any association between any of the inflammatory markers and cognitive symptoms, or with the PROMIS global mental or physical health metrics, suggesting that at least in this cohort, ongoing inflammation was not a primary driver of the outcomes that we were able to assess at 18 months.

We did notice some changes in D-dimer levels and neutrophil counts, where they went up during the first week of hospitalization before subsequently declining. And we are interested in D-dimer because it indicates that there's some clotting disorder happening, and microthromboses were seen in the acute phase—in patients who died acutely with COVID-19 in the brain. And we postulate that this might be one of the mechanisms of brain injury—blood-brain barrier disruption and microthromboses, and maybe D-dimer as a marker of microthromboses—but I would say there's some interesting signal there, but we would need a lot more data and more studies to try to pick apart these different mechanisms.

Announcer:

That was Dr. Jennifer Frontera talking about inflammation levels and cognitive symptoms in individuals who were hospitalized for COVID-19. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!