Searching for a biomarker to predict which coronavirus patients are at risk for severe symptoms

Respiratory physician Dr. David Darley says something peculiar happens to a small group of Covid-19 patients on day seven of their symptoms.

"Up until the end of that first week, they're stable," says Darley, a doctor with Sydney's St Vincent's Hospital. "And then suddenly, they have this hyper-inflammatory response. The proteins involved in that inflammation start circulating in the body at high levels."

In these patients, the lungs begin to struggle. Blood pressure lowers. Other organs, including the kidneys, may begin to shut down. Blood clots form throughout the body. The brain and intestines may also be affected. Some suffer changes to their personality, suggesting brain damage.

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But there is no way of knowing which patients will be affected by the most severe symptoms. Clinicians like Darley hope that a disease biomarker – a unique characteristic in the blood, body fluids, or tissues – will eventually be discovered for each stage.

"It would help clinicians predict what stage patients are at and maybe even if they will progress to the next stage of disease," he said. "It could help us predict who needs to be more closely observed in hospitals and would mean we have all the systems ready to go if they worsen."

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