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Heart Risk Linked To Covid-19: Study

Muscle Damage Seen After Recovery In 1 Out Of 3

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New Delhi: People who have recovered from Covid-19 may require a closer and long-term follow-up for heart-related complications, doctors at GB Pant Hospital have suggested. The Delhi hospital recently conducted a study wherein 134 patients who had fully recovered from Covid-19 underwent imaging test — speckle tracking echocardiography — to assess heart function. It was found that nearly one in every three patients had a subclinical left ventricle dysfunction while 11% had right ventricle dysfunction.

The heart has four chambers, out of which the left and right ventricles — the lower chambers — are responsible for pumping oxygenated blood into tissues all over the body and sending oxygen-depleted blood to the lungs, respectively.

Dr Mohit Gupta, professor of cardiology at the hospital, told TOI that dysfunction in the left ventricle was seen even in patients who had recovered after asymptomatic (8%) or mild (13%) Covid-19. “The long-term effects of Covid-19 on the cardiovascular system is still not known. However, it is clear that there is a subclinical effect of Covid-19 on heart muscle. It would be pertinent to follow up these patients over three to six months to see how this damage evolves,” Dr Gupta, principal investigator of the study, said.

He added that the long-term follow-up might translate into timely prediction of the impact of Covid-19 on the cardiac function and the need for possible therapeutic interventions to prevent cardiovascular complications.

Explaining the reason behind conducting the study, Dr Gupta said the hospital’s cardiac OPD witnessed a significant surge in the number of patients who had recovered from Covid-19 and had symptoms such as breathlessness, palpitations and fatigue after the first wave.

“All routine cardiac tests were normal, including the baseline echocardiography. We thought it would be good to evaluate the subclinical damage of heart muscle using speckle tracking echocardiography, an improvised echocardiographic imaging technique that analyses the motion of tissues in the heart by using the naturally occurring speckle pattern in the myocardium (muscular tissue of the heart) or blood when imaged by ultrasound,” he said. “To our surprise, they had significant subclinical effects. We then conceptualised this study.”

The cardiology department collaborated with the electronics and communication engineering department at Indraprastha Institute of Information Technology, which helped in interpreting the imaging test reports using artificial intelligence.

According to the results, accepted for publication in *Echocardiography*, a top-rated medical journal, impaired left ventricle function was seen in one (8%) of the patients with history of asymptomatic Covid, eight (13%) patients with history of mild Covid, 22 (44%) patients with history of moderate Covid and nine (90%) patients with history of severe Covid.

The doctors say the heart could be damaged during Covid-19 due to multiple factors, such as systemic inflammatory response due to cytokine storm, hypoxia induced by oxygen supply-demand mismatch, and direct injury to heart muscles.

Dr Girish MP, a co-author of the study, said while patients recovered from mild Covid-19 with no residual symptoms didn't need to worry, those having recovered from moderate/severe Covid and having symptoms such as breathlessness and palpitations should be investigated for heart muscle damage.