Semi-quantitative CT-severity scoring as a predictor of development of post COVID Syndrome.

Abstract

Background: Following COVID-19 pandemic, clinical description focused on the clinical presentation of patients in the acute stage of the disease. More recently, data have emerged that some patients continue to experience symptoms related to COVID-19 after the acute phase of infection has subsided (post-COVID syndrome). Although characteristics of post-COVID syndrome have been well described, less is known about the possible invitations during acute illnesses that can predict such syndrome. Our study is a prospective study aiming at assessment of CT severity scoring in the acute phase of COVID-19 pneumonia as a predictor for development of post-COVID syndrome in recovering patients.

Results: A total of 192 symptomatic COVID-19 patients between April 2020 and October 2020 were enrolled in this single-center study, and high-resolution chest CT examinations were evaluated for CT severity scoring. Data were matched with the long-term clinical outcome. CT severity score was significantly higher in patients who developed post-COVID symptoms ($p < 0.001$). A CT score of > 7 was associated with an increased risk and was found to be predictive of condition development with sensitivity (95.9%), specificity (96%), positive predictive value (95.92%), negative predictive value (96%), and accuracy (95.96%).

Conclusions: CT severity scoring can help in predicting the long-term outcome of COVID-19 patients with cutoff value of CT-SSS > 7 showing highest sensitivity and specificity for predicting development of post-COVID syndrome.

Keywords: COVID-19 pneumonia, Post-COVID syndrome, CT chest, CT severity scoring