



EUROPEAN RESPIRATORY *journal*

FLAGSHIP SCIENTIFIC JOURNAL OF ERS



# An Assessment of the Performance of Low Dose CT Thorax (CT Pneumonia) as a screening tool in the diagnosis of Covid-19

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European Respiratory Journal 2021 58: PA3251; DOI: 10.1183/13993003.congress-2021.PA3251

Article

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## Abstract

The advent of the COVID-19 pandemic in Malta led to a number of innovations in terms of work practices, including the introduction of blanket swabbing of all hospital admissions for Covid-19 using PCR nasopharyngeal swab as well as the temporary indiscriminate use of Low dose CT Thorax (CT Pneumonia) as a screening tool in all patients with respiratory symptoms or fever, a recent positive contact, history of travel abroad and all health care workers presenting to hospital.

Our aim was to assess the performance of CT pneumonia as a screening tool for Covid-19 in a cohort of patients presenting to large teaching hospital.

661 screening CTs performed between 29/3/20 and 14/4/20 were included. 4 CTs (0.6%) were reported as positive for Covid-19, 45 (6.8%) were reported as 'indeterminate' with the remaining 612 (92.6%) reported as 'alternative diagnosis' or negative.

Covid-19-PCR-swab was positive in 21 patients (3.2%). Of these, 14 (66.7%) had a Negative CT Pneumonia, 6 (28.6%) had a CT reported as 'Alternative Diagnosis' and 1 (4.8%) had a positive CT for Covid-19. Among the remaining cases testing negative on PCR swab, 3 were reported as having a positive CT and in 2 of these cases,

Covid-19 was confirmed using serology testing. Within the entire population of patients who underwent CT Pneumonia, the overall sensitivity for Covid-19 was 13.0%, specificity was 99.8%, positive predictive value was 75.0% and negative predictive value was 96.7%.

CT Pneumonia had a low sensitivity for Covid-19 in our cohort of patients making it a poor screening tool, however it may have a role in those who test negative on PCR swab where a high index of suspicion persists.

[Covid-19](#) [Diagnosis](#) [Adults](#)

## Footnotes

Cite this article as: *European Respiratory Journal* 2021; 58: Suppl. 65, PA3251.

This abstract was presented at the 2021 ERS International Congress, in session “Prediction of exacerbations in patients with COPD”.

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