LETTER TO EDITOR

Radiological Aspect of COVID-19 Pneumonia: How CT Chest Findings Help in Diagnosis?

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Dear Editor,

Coronavirus disease-2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The first cases were seen in Wuhan, China, in late December 2019 before spreading globally. The current outbreak was officially recognized as a pandemic by the World Health Organization (WHO) on 11 March 2020.

Definitive diagnosis of COVID-19 requires a positive RT-PCR test. Although the diagnosis of COVID-19 is suspected on the basis of symptoms of pneumonia (e.g., dry cough, fatigue, myalgia, fever, and dyspnea) as well as history of recent travel to high risk areas or exposure to a known patient, chest imaging plays an important role in both assessment of disease extent and follow-up.

Existing best practice recommends that Computerized Tomography (CT) chest is helpful in assessing for complications. CT has a higher sensitivity but lower specificity and can play a role in the diagnosis and treatment of the disease. The non-specific imaging findings are most commonly of atypical or organizing pneumonia, often with a bilateral, peripheral, and basal predominant distribution. Consolidation superimposed on ground glass opacity as the initial imaging presentation is found in a smaller number of cases, mainly in the elderly population. Septal thickening, bronchiectasis, pleural thickening, and subpleural involvement are some of the less common findings, mainly in the later stages of the disease. Pleural effusion, pericardial effusion, lymphadenopathy, cavitation, CT halo sign, and pneumothorax are some of the uncommon but possible findings seen

CT Scan Findings in COVID-19 Pneumonia
Case 1:

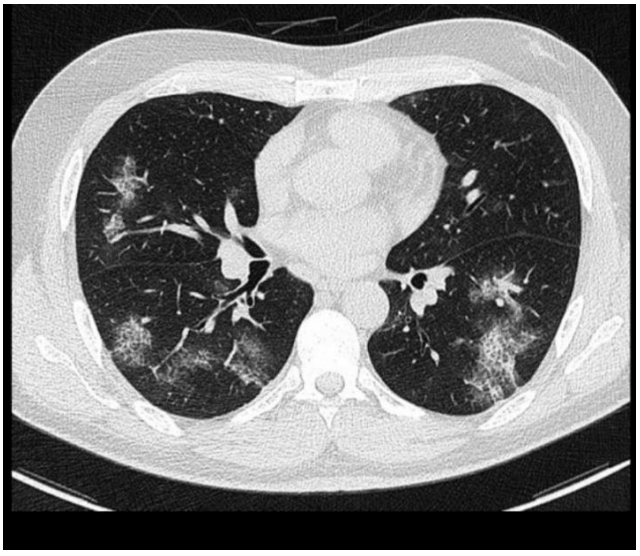

Fig.1: There are multiple areas of ground glass opacities in both lungs, more marked in lung bases. No pleural effusion or pneumothorax is seen. (Axial CT chest with contrast).[2]

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with disease progression. There is much overlap of the CT-pattern of COVID-19 with other viral pneumonias[1].

Case 2

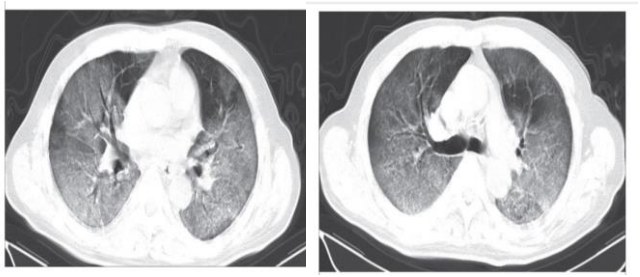

Fig. 2: Extensive ground glass opacities almost symmetrical bilaterally. Both lung bases are diffusely affected along with upper lobes and right middle lobe, giving "white lung appearance ". Air bronchogram is also seen. (CT chest)[3]

Case 3

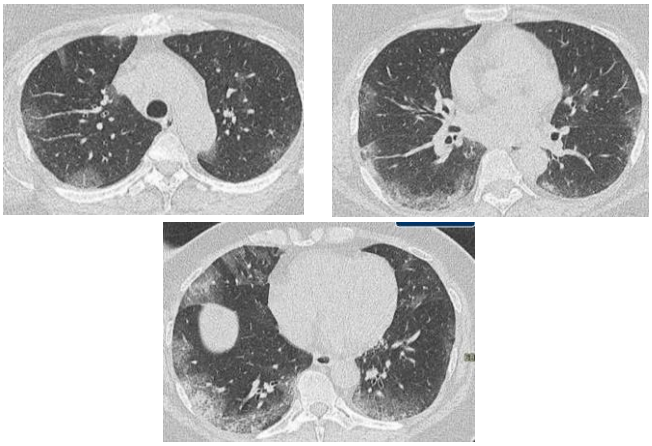

Fig. 3: Ground glass opacities involving bilateral subpleural locations, more marked at lung bases making typical "crazy paving pattern". Some areas of consolidation with air bronchogram is also seen in lower lobes. (CT chest with contrast).[4]

CONCLUSION

The reported imaging features in COVID-19 are variable and nonspecific. In the current situation, imaging of COVID-19, particularly with chest CT, has a very high value because it shows characteristic manifestations even in the presence of initially false negative lab results. Earlier diagnosis with the aid of imaging allows for early containment and response to this communicable disease as well as overcoming the outbreak as soon as possible through a joint effort.

CONFLICT OF INTEREST

None to declare.

FINANCIAL DISCLOSURE

None to disclose.

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Author's Contribution

SN , MZ: Both authors drafted, critically revised the manuscript for important intellectual contents and approved the final version.

Dr. Sumera Nighat (MBBS, FCPS) is working as Assistant Professor in the Radiology Department at Bakhtawar Amin Hospital, Multan. She has a reasonable experience in reporting Chest X/Ray and CT scan findings along with training in advanced radiological testing techniques. Her keen insight into the radiological aspect as a frontline diagnostic modality of COVID-19 has aspired her to write this letter to Biomedica.