Radiology Practices During COVID-19 Era

COVID-19 pandemic has affected tens of millions and killed more than 1.3 million of people around the globe since December 2019.[1] However, unlike the Spanish flu pandemic about a century ago, the magnitude of fatality is significantly low so far despite of its high contagiousness. The primary reasons for this outcome are effective communication among the various parts of globe, coherent strategies designed by world health organization (WHO) and health authorities of various countries, knowledge sharing, introduction of lock down and social distancing, etc. COVID-19 has changed the global financial, social and health dynamics with various conspiracy theories revolving around too.

With the passage of time, researchers have explored the facts behind COVID pneumonia and pathogenesis of other systems leading to multi organ failure in infected patients dying. A recent study using CT pulmonary angiography (CTPA) suggest that the development of pulmonary thromboembolism (PTE) in patients with COVID-19 is a manifestation of pulmonary artery thrombosis due to lung inflammation rather than venous thromboembolism. The same study also found different parameters between deceased and survivors. The patients died of COVID-19 were older, with a median age of 69, and more likely to have comorbidities such as hypertension, diabetes, and coronary heart disease; they also tended to have higher C-reactive protein (78.11 mg/L compared with 10.85 mg/L) and D-dimer (1.98 mg/L compared with 0.30 mg/L) values. These researchers also found that deceased' CT did show diffuse lesions, bilateral involvement and higher CT severity score than survivors' CT. The researchers of this study concluded that the presence of predominant crazy-paving pattern on chest CT with the high and rapidly increased CT scores may help to identify the patients at high risk of developing acute respiratory ARDS before clinical deterioration.[2]

It is also a matter of concern that during this pandemic phase various screening procedures have been delayed and gouged. According to a study among all screening and diagnostic procedures, mammogram is the worst hit procedure.[3] It is speculated that this would result in delayed diagnosis of early breast cancers in appreciable percentage of women with negative financial and psychological impact.[3]

One of the harsh realities of COVID-19 is its incredible strain on today's healthcare system, with numerous radiology groups experiencing extreme financial uncertainties.[4] At the outset of COVID-19 pandemic, on advise of health authorities all elective appointments and procedures were canceled or postponed, which had led to a massive decline in imaging volumes and large decreases in revenue (expected 55%). Practices have also resorted to virtual methods, such as tele-radiology, to conduct business and continue serving patients and gather much-needed revenue. Radiology groups need to devise strategic plans cater expected imminent spike in business once local restrictions are reduced. There is a dire need for upgrade scheduling capabilities and improve radiology workflow.

In the era of COVID-19, social distancing is considered as buzzword which refers to physical distancing of 1-2 meter with an aim to disrupt spread of infection to non-infected ones and this would help in flattening the curve.[5] In order to achieve effective social distancing, some radiology departments have segregated manpower into smaller teams who are supposed to function independently. It is important to employ physical and temporal strategies to segregate these teams with minimal odds of crossover during and after work hours. Use of tele-reporting by diagnostic radiologists is also being practiced in services having infrastructures. It important to understand that safe distancing

Submitted 16 November 2020, Accepted 16 November 2020

must be exercised at entrance of radiology services. This can be effectively executed by employing "one patient and one attendant policy", screening questionnaires, and triaging scan urgency in symptomatic patients.

Conflict of Interest; None.

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