



Comment on “COVID-19 infection control protocol inside computed tomography suites”

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Dear Editor,

We read with great interest the article “COVID-19 pneumonia: infection control protocol inside computed tomography suites” by Dr. Nakajima et al. [1] in the Japanese Journal of Radiology. The authors highlight the procedures needed to control COVID-19 infection while performing chest computed tomography (CT).

A recent huge wave of contagion has involved Italy in March 2020. Hospitals in the northern part of Italy are facing a health emergency never seen before [2]. In this setting, it is crucial to maintain high-level care for critical patients and to reduce intra-hospital infection. We would like to communicate the experience of our hospital located in the center of Milan, a city currently afflicted by the high prevalence of COVID-19, and make some considerations regarding your recommendations in the light of our current situation.

The best solution to reduce the contagion is to isolate COVID-19 patients in dedicated rooms and with dedicated pathways [3]. Therefore, in our hospital, all the CT examinations are executed on a COVID-19 patient-dedicated Scanner (Somatom Definition Flash, Siemens, Engelberg, Germany). Exams are acquired with automated tube current and tube voltage modulation systems. CT acquisition parameters for lung parenchyma assessment are as follows: kVp, Care kV (ref. kV 120); Care Dose Reference mAs

150; rotation time, 0.5 s; average acquisition time, 3–4 s; collimation 128 × 0.6 mm; pitch value 1.0; scan direction craniocaudal, and reconstructed for parenchyma (reconstruction algorithm B80f; slice thickness 0.75 mm; reconstruction spacing 0.5 mm) and mediastinum (reconstruction algorithm B30f; slice thickness 3 mm; reconstruction spacing 3 mm).

Due to the numerous comorbidities and the complexity of the clinical picture of most patients suffering from severe forms of COVID-19, we would like to report that clinicians often require contrast-medium CT scan for the evaluation of abdominal organs, large vessels, other causes of infection and to exclude pulmonary embolism in patients with increased D-dimer levels.

Furthermore, an important aspect we have to face is the paucity of Personal Protective Equipment (PPE), with the need to reduce their consumption as much as possible. As the authors stated, the presence of two radiology technologists (RTs) represents the best solution for the CT scanning of COVID-19 patients: one RT with PPE sets up the patient positioning on the scanner table, whereas a second one, without PPE, operates the machine console. In the case of non-enhanced CT, a RT alone, wearing PPE, comes into contact with the patient; if patients do not cooperate, the RT will make use of the support of the healthcare assistant (HA) carrying the patient, already protected with PPE. In the case of contrast-enhanced CT, the medical radiologist wears PPE for direct assistance to the patient and to inject the contrast medium.

We underline the need for a disposable, large surgical sheet to place on the CT bed to avoid contacts between the patient and the CT equipment. After the exam, the CT suite is closed for the next hour to ventilate and exchange the room air. In this time, a specifically trained HA, protected with PPE, removes the disposable sheet and cleans contact surfaces with a cloth soaked with alcohol-based disinfectants. The dedicated HA staff, on duty throughout the day, is

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also committed to assisting in dressing healthcare workers with PPE.

Again, we congratulate Dr. Nakajima and colleagues for their article and striving to optimize COVID-19-positive patient management in the CT suites.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Human/animal participants This article does not contain any studies with human participants or animals performed by any of the authors.

Reference

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