

LETTER TO THE EDITOR

Italian Radiology's Response to the COVID-19 Outbreak

We read with interest the excellent and useful article by Kooraki et al [1] published on February 19, 2020, and we would like to share with the authors the experience of Italian radiology during the Coronavirus disease 2019 (COVID-19) outbreak.

As of April 2, 2020, the impact of the large number of affected patients requiring hospitalization on radiology departments has been devastating, especially in the northern Italian regions, the most affected by the epidemic. Having only three hospitals in Italy dedicated exclusively to infectious diseases, L. Sacco Hospital in Milan, the National Institute for Infectious Diseases – INMI Lazzaro Spallanzani in Rome, and Domenico Cotugno Hospital in Naples—in the first phase of the outbreak, we needed to redesign the organization of emergency radiology units in local hospitals to create dedicated tracks for the evaluation of individuals with suspected infection and for patients with known diagnoses. Separation between those subjects who had or were suspected to have COVID-19 and other presumed noninfected patients admitted to the emergency department was the first priority. Having entered the second phase with fewer individuals presenting to the emergency department and an increase in the number of hospitalized patients, the creation of dedicated and protected internal access paths to radiologic services was necessary.

In many hospitals, depending on the size and layout of the radiology unit, the availability of equipment, and throughput of patients, chest

radiography (CXR), performed using portable imaging equipment, has been considered the first-line examination [2]. Ease of disinfection of the equipment and accessibility to bedridden patients were the main reasons for this choice, as suggested by the authors [1]. CXR can easily differentiate between a normal and severely abnormal chest, reducing the need for CT examinations, and it is also useful for monitoring inpatients, together with lung ultrasound, performed by an anesthesiologist. However, CXR sensitivity is low, particularly at an early stage of the disease [3].

Chest CT is the most accurate imaging modality in symptomatic patients at admission, to assess disease severity and guide patient management [4]. However, considering the high volume of patients with COVID-19 and the length of the sanitization procedures of the CT scanner room in the interval between two consecutive patients, many Italian hospitals have dedicated CT equipment to patients with COVID-19. If this was not possible, they have established specific internal protocols to scan COVID-19-positive patients consecutively and sanitize the CT scanner room at the end of the shift. In a few hospitals in which dedicated CT scanners were not available, or patient volume was too high, mobile CT devices were rented.

The Italian Society of Medical and Interventional Radiology (SIRM) reacted immediately to support radiologists operating in high-risk areas by launching a press information campaign called “Coronavisibile” (<http://www.sirm.org>). To support routine work of radiologists in the

emergency rooms, the society has published a database of COVID-19 cases (<https://www.sirm.org/category/senza-categoria/covid-19/>) and has developed a structured report, now available in languages other than Italian (<https://www.sirm.org/2020/02/28/covid-19-il-referto-strutturato/>). The battle is tough, but Italian radiologists are ready.

Andrea Laghi, MD

Department of Surgical Medical Sciences
and Translational Medicine
Sapienza – University of Rome
AOU Sant'Andrea
Via di Grottarossa, 1035
00189 Rome
Italy
e-mail: andrea.laghi@uniroma1.it

Roberto Grassi, MD

Department of Radiology, Università della
Campania Luigi Vanvitelli, Naples
Italy

Dr Laghi has received personal fees from Bracco, Bayer, Guerbet, Merck Sharpe & Dohme, and GE Healthcare outside the submitted work. Dr Grassi states that he has no conflict of interest related to the material discussed in this article.

REFERENCES

1. Kooraki S, Hosseiny M, Myers L, Gholamrezaezhad A. Coronavirus (COVID-19) outbreak: what the department of radiology should know. *J Am Coll Radiol* 2020;17:447-51.
2. Orsi MA, Oliva AG, Cellina M. Radiology department preparedness for COVID-19: facing an unexpected outbreak of the disease. *Radiology*. Available at: <https://pubs.rsna.org/doi/10.1148/radiol.2020201214>. Accessed April 16, 2020.
3. Ng M, Lee EYP, Yang J, et al. Imaging profile of the COVID-19 infection: Radiologic findings and literature review. *Radiol Cardiothorac Imaging* 2020;2:e200034.
4. Caruso D, Zerunian M, Polici M, et al. Chest CT features of COVID-19 in Rome, Italy. *Radiology*. Available at: <https://pubs.rsna.org/doi/10.1148/radiol.2020201237>. Accessed April 16, 2020.

<https://doi.org/10.1016/j.jacr.2020.04.012>
S1546-1440(20)30406-3