





# Korean Imaging Cohort of COVID-19: Potential Role in Education and Research

## 코로나바이러스감염증-19의 한국 영상 코호트: 교육과 연구에서의 잠재적 역할

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After the first case of coronavirus disease 2019 (COVID-19) in South Korea was reported on January 19, 2020, the number of confirmed cases increased rapidly, and currently exceeds 10000 with a mortality rate of 2.2% (1). The primary role of imaging in viral infections, such as COVID-19, is to identify the presence of pneumonia, check for differential diagnoses, and monitor changes and treatment response on follow-up imaging (2, 3). Collaborative efforts to share images and expert opinions across Korea and worldwide are needed to enable radiologists become better informed of the imaging features of COVID-19. From this perspective, the Korean Society of Thoracic Radiology (KSTR) decided to build a COVID-19 imaging repository at a national level, called the Korean Imaging Cohort of COVID-19 (KICC-19).

First, KSTR formed a team, consisting of 22 KSTR members, including KSTR's board of directors to decide the aim of KICC-19, design the database and imaging repository, and plan for its future use. The aim of KICC-19 is to provide imaging guidelines for COVID-19, provide a resource for thoracic radiologists, and enable researchers to conduct observational studies or generate new artificial intelligence algorithms to assist in the

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early and accurate detection of COVID-19. These goals fit well with KSTR's mission to promote and develop the highest standards in thoracic radiology and related sciences through scholarly communication, research, and education in Korea.

The Korean Society of Radiology (KSR) and KSTR published recommendations regarding the use of diagnostic imaging for COVID-19 in various clinical scenarios on April 10, 2020 (4). Fourteen cases of COVID-19 pneumonia with various imaging findings were posted on Weekly Chest Cases (<https://kstr.radiology.or.kr/weekly/corona/>), which provides easily accessible, high-quality thoracic radiology education through a case-based approach to a worldwide audience.

Under KSR's research support, KSTR, in conjunction with AIM-Aicro (Asan Image Metrics, Seoul, Korea), have designed, built, and deployed a simple, anonymized, and encrypted online platform to upload imaging of COVID-19. About 1000–1500 images from patients with COVID-19 are expected to be submitted to this platform. Every case will be registered and uploaded with brief clinical metrics (including patients' demographics, laboratory findings, and clinical severity), which will help understand the relevance of the imaging findings in the context of known clinical and laboratory data. Comprehensive and diverse research using the high-quality KICC-19 database is expected and includes establishing the level of observer variation, prognostic analysis, and quantification of COVID-19 pneumonia. All contributors to KICC-19 will be considered collaborators on any education and research outputs.

To enable KICC-19 to realize its full potential in the education and research of COVID-19 in Korea, we urge all radiologists to participate in this project.

#### Author Contributions

Conceptualization, J.Y.J., K.Y.; writing—original draft, J.Y.J.; and writing—review and editing, all authors.

#### Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

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