Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

advantages, IR can continue to step into a leadership role during the COVID-19 pandemic and future system-wide crises.

REFERENCES

1. Da Zhuang K, Tan BS, Tan BH, Too CW, Tay KH. Old threat, new enemy: is your interventional radiology service ready for the coronavirus disease 2019? Cardiovasc Intervent Radiol 2020; 43: 665–666.
2. Pua U, Wong D. What is needed to make interventional radiology ready for COVID-19? Lessons from SARS-CoV epidemic. Korean J Radiol 2020; 21: 629–631.
3. Keshava SN, Gupta A, Pant R, Sutphin PD, Kalva S. Practice of interventional radiology during the COVID-19 pandemic. J Clin Interv Radiol ISVIR 2020; 4:1–2. https://doi.org/10.1055/s-0040-1709962.
4. Lau TN, Teo N, Tay KH, et al. Is your interventional radiology service ready for SARS? The Singapore experience. Cardiovasc Intervent Radiol 2003; 26:421–427.

Diagnosis of Asymptomatic COVID-19 Infection in a Patient Referred for CT Lung Biopsy

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Editor:

As the prevalence of coronavirus disease 2019 (COVID-19) infection continues to rise, there is increased risk of disease transmission to health care workers performing procedures where the virus may aerosolize, such as computed tomography (CT)–guided transthoracic lung biopsy. We report a case of an asymptomatic patient in whom COVID-19 infection was diagnosed based on imaging findings at the time of CT-guided transthoracic lung biopsy. Institutional review board approval was not required for this case report.

A 61-year-old asymptomatic man with prior tonsillar cancer was referred for CT-guided transthoracic lung biopsy of a suspicious nodule identified on chest CT 1 month prior (Fig 1). Laboratory testing performed before the biopsy demonstrated a mildly decreased white blood cell count of 3,100/mm^2 (normal range, 4,000–11,000/mm^2), with otherwise normal laboratory values. CT performed in the prone position before the procedure redemonstrated the suspicious left lower lobe nodule as well as multiple new ground-glass and nodular opacities in the periphery of both lungs (Fig 2a–c). The imaging findings raised concern for possible asymptomatic COVID-19 infection, and the lung biopsy was postponed. The patient was subsequently referred for polymerase chain reaction testing, which confirmed COVID-19 infection.

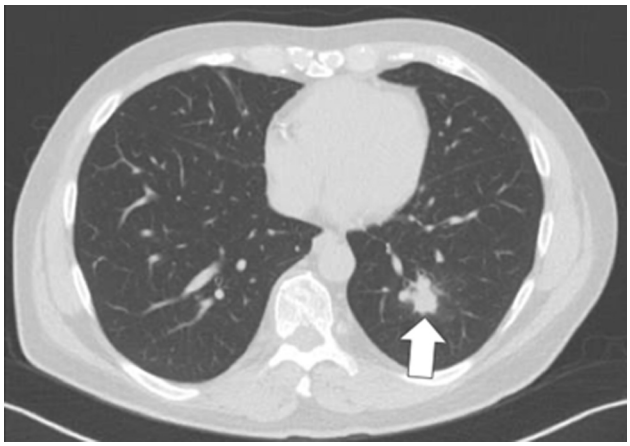

Figure 1. Noncontrast chest CT image obtained 1 month before transthoracic lung biopsy demonstrating a suspicious 1.1 × 1.5 cm nodule left lower lobe (white arrow). No other lung abnormalities were present.

Up to 50% of patients infected with COVID-19 are either asymptomatic or capable of disease transmission before showing symptoms (1). A recent study of patients with polymerase chain reaction–proven COVID-19 found that 54% of the asymptomatic cohort had lung opacities present on CT (2). The most commonly reported chest CT findings of COVID-19 infection include peripheral predominant ground-glass opacities and consolidations, sometimes with a rounded morphology (3). Although COVID-19 infection is transmitted primarily through direct contact or respiratory droplets, patients with a cough can aerosolize the virus. Because many of the complications from CT-guided transthoracic lung biopsy are likely to induce coughing (4), there is increased risk of disease transmission to health care workers who may be using only standard universal precautions during the procedure.

With widespread community transmission of COVID-19 in many parts of the United States, interventional radiologists performing CT-guided transthoracic procedures should carefully review imaging obtained before procedures for findings associated with COVID-19 infection, including in asymptomatic patients. Depending on the clinical setting, it may be prudent to either defer the interventional procedure and obtain COVID-19 testing or use more stringent airborne precautions to avoid accidental exposure to the COVID-19 virus.

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None of the authors have identified a conflict of interest.

https://doi.org/10.1016/j.jvir.2020.04.002

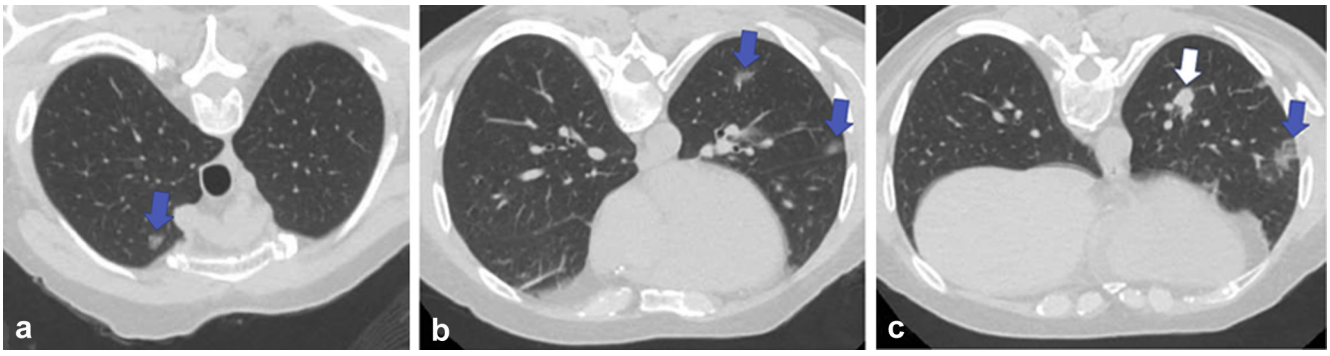

Figure 2. CT images obtained in the prone position before CT-guided transthoracic lung biopsy, from cranial to caudal **(a–c)**. There are multiple new ground-glass opacities in the lung periphery, some with a rounded morphology (blue arrows). The suspicious left lower lobe nodule persists (white arrow).

REFERENCES

1. Mizumoto K, Kagaya K, Zarebski A, Chowell G. Estimating the asymptomatic proportion of coronavirus disease 2019 (COVID-19) cases on board the Diamond Princess cruise ship, Yokohama, Japan, 2020. Eurosurveillance 2020; 25:1–5.
2. Inui S, Fujikawa A, Jitsu M, et al. Chest CT findings in cases from the cruise ship "Diamond Princess" with coronavirus disease 2019 (COVID-19). Radiol Cardiothorac Imaging In press; available online March 17, 2020. https//doi.org/10.1148/ryct.2020200110.
3. Chung M, Bernheim A, Mei X, et al. CT imaging features of 2019 novel coronavirus (2019-nCoV). Radiology 2020; 295:202–207.
4. Heerink WJ, de Bock GH, de Jonge GJ, Groen HJM, Vliegenthart R, Oudkerk M. Complication rates of CT-guided transthoracic lung biopsy: meta-analysis. Eur Radiol 2017; 27:138–148.

Severe Gastric Mucosal Necrosis: A Complication of Bariatric Arterial Embolization

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Editor:

Bariatric arterial embolization is a minimally invasive procedure aimed at modulating important appetite-regulating neuroendocrine signals. This is a case of a patient who developed upper gastrointestinal bleeding following bariatric arterial embolization. Institutional review board approval is not required for case reports.

A 33-year-old, morbidly obese patient was referred for bariatric arterial embolization as part of a clinical study (NCT02872740) after failing lifestyle management and was deemed a poor surgical candidate because of severe sleep apnea. Initial weight was 204.1 kg (body mass index [BMI] = 56.5) and medical history included hypertension, obstructive sleep apnea, and hypothyroidism. There was no history of abdominal surgeries, and the preprocedure upper endoscopy was unremarkable. Proton pump inhibitors were administered 3 days before the procedure for gastrointestinal protection.

Using a left transradial approach, a Sarah radial catheter, 0.035-in. glidewire (Terumo, Tokyo, Japan), coaxial 2.4 French Progreat microcatheter and 0.014-in. gold tip glidewire (Terumo) were used to select the left gastric artery, which supplied the gastric fundus (**Fig 1a**). Embolization stasis was achieved with three-quarters of a vial of 150 to 250 μm polyvinyl alcohol particles (Boston Scientific, Marlborough, Massachusetts) (**Fig 1b**). This was the fourth procedure of a clinical trial study performed by an experienced operator with more than 25 years of interventional radiology experience.

Two hours postprocedure, the patient developed 300 mL of acute hematemesis. Immediate endoscopic evaluation demonstrated 30% to 50% circumferential mucosal sloughing in the gastric body and cardia centered on the lesser curvature consistent with acute ischemia (**Fig 2**). Bleeding was managed with Hemospray (Cook Medical, Bloomington, Indiana). Following the endoscopy, the patient was fluid resuscitated with bowel rest and given intravenous pantoprazole and octreotide. After 24 hours, diet was slowly advanced with transition to oral Pantoloc and sucralfate. He was discharged on postprocedure day 2.

One month postprocedure, there was approximately 80% healing of the gastric ulceration on endoscopy and the patient was asymptomatic. After 6 months, endoscopic evaluation revealed complete healing of the gastric mucosa (**Fig 3**). At this time, the patient weighed 181.1 kg (weight reduction of 11.2%, excess weight loss of

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None of the authors have identified a conflict of interest.

https://doi.org/10.1016/j.jvir.2020.02.020