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## Acute arterial thrombosis in a breast cancer survivor with coronavirus disease 2019 (COVID-19)

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### ARTICLE INFO

#### Article history:

Accepted 18 June 2020

Available online 7 July 2020



**Fig 1.** Gangrenous changes in the right hand—(A) palmar aspect and (B) dorsal aspect.

The coronavirus disease 2019 (COVID-19) outbreak caused by the novel coronavirus (SARS-CoV-2), which originated in Wuhan

(China), has now spread across the globe infecting millions of people worldwide.<sup>1</sup> COVID-19 is a hypercoagulable state and may lead to both venous and arterial thromboembolic events.<sup>2</sup> This state is more common in cancer patients owing to an immunosuppressed state.<sup>3</sup> Therefore, a thorough evaluation of the vascular system is warranted in these patients.

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A 60-year-old female patient with no comorbidities complained of pain and discoloration of her right hand 3 days after being diagnosed with COVID-19. She had a previous history of locally advanced carcinoma of the left breast 4 years ago for which she underwent neoadjuvant chemotherapy (through peripherally inserted central line in her right upper limb). This was followed by mastectomy, radiation therapy, and hormonal therapy. The patient had been disease free for the last 3.5 years.

On physical examination, the right upper limb was cold with the right hand showing gangrenous changes (Fig 1, A and B). The brachial and radial artery pulsations were not palpable. Ultrasound Doppler of the right upper limb demonstrated a 6-cm-long thrombus at the bifurcation of the brachial artery and extending into the proximal part of the ulnar and radial arteries. There was no obvious color flow seen in the radial and ulnar arteries.

Because the patient had a poor general condition with an Eastern Cooperative Oncology Group performance status of 2, the patient was managed conservatively with heparin, aspirin, cilostazol, and pentoxifylline. A surgical intervention was not contemplated because the risk of reperfusion injury was considered greater than the risk associated with thrombectomy.

COVID-19 induced thrombosis has been observed most commonly in lower limbs followed by upper limbs and mesenteric vessels.<sup>2,4,5</sup> However, the incidence of venous thrombosis is greater than that of arterial thrombosis in COVID-19.<sup>2</sup> Cancer patients, particularly those who receive chemotherapy, are at a higher risk for arterial thrombosis and maintain a subclinical hypercoagulable

state.<sup>6</sup> Whether this hypercoagulability is exacerbated during COVID-19 needs to be evaluated further.

### Funding/Support

None.

### Conflict of interest/Disclosure

None.

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