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Authors: Lorenzo Loffredo, Pasquale Pignatelli

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Radial artery pseudo-aneurysm detected with portable handheld ultrasound device in a COVID-19 patient

Lorenzo Loffredo, Pasquale Pignatelli

Department of Clinical Internal, Anesthesiologic and Cardiovascular Science, Sapienza University of Rome, Rome, Italy

Correspondence to:

Prof. Lorenzo Loffredo,
Department of Clinical Internal,
Anesthesiologic and Cardiovascular Science,
Sapienza University of Rome,
Viale del Policlinico 155, Rome, 00161, Italy,
phone: +39 064 997 01 03,
e-mail: lorenzo.loffredo@uniroma1.it

A 78-year-old male patient with COVID-19 was admitted to the emergency room for hemorrhagic shock related to a ruptured middle-colic artery aneurysm. In the days before admission, COVID-19 infection was treated with monoclonal antibodies. In the emergency room, he appears in very serious clinical conditions, was intubated and treated with inotropic drugs. Embolization of the middle colic artery was performed to stop active bleeding and cannulation of the left radial artery was performed.

At admission in the medical ward, a pseudoaneurysm of the radial artery (**Figure 1A**) was detected with portable ultrasound device (Butterfly IQ+). In the following days, the size of the pseudoaneurysm increased (**Figure 1B**).

The pseudo-aneurysmal formation was later confirmed by a computerized tomography (CT) (**Figure 1C**). CT showed a diameter of about 8 mm at the level of the distal third of the radial artery, corresponding to the distal radial epiphysis. The day after a sudden rupture of the pseudoaneurysm was observed. Selective arteriography of the radial artery confirms the pseudoaneurysm of the distal third of the artery with active spread of contrast medium. The pseudoaneurysm was embolized with a microcatheter. No blood flow was detected after embolization with portable ultrasound device (**Figure 1D**). The patient was discharged in good clinical condition.

Pseudoaneurysm of the artery represents a rare complication (incidence of incidence of 0.048% [1]) that can occur after attempts to canalize the radial arteries [2]. We cannot exclude that COVID-19 infection increased the risk of fragility of the arterial wall. Inflammation of the arteries and increased oxidative stress could play a pivotal role to increase vascular complications in COVID-19 patients [3, 4]. Some studies reported rupture of aneurysms or dissections aggravated by COVID-19 infections [5].

Portable ultrasound reliably diagnoses radial artery pseudoaneurysms and is a valuable tool for early detection of vascular diseases.

Article information

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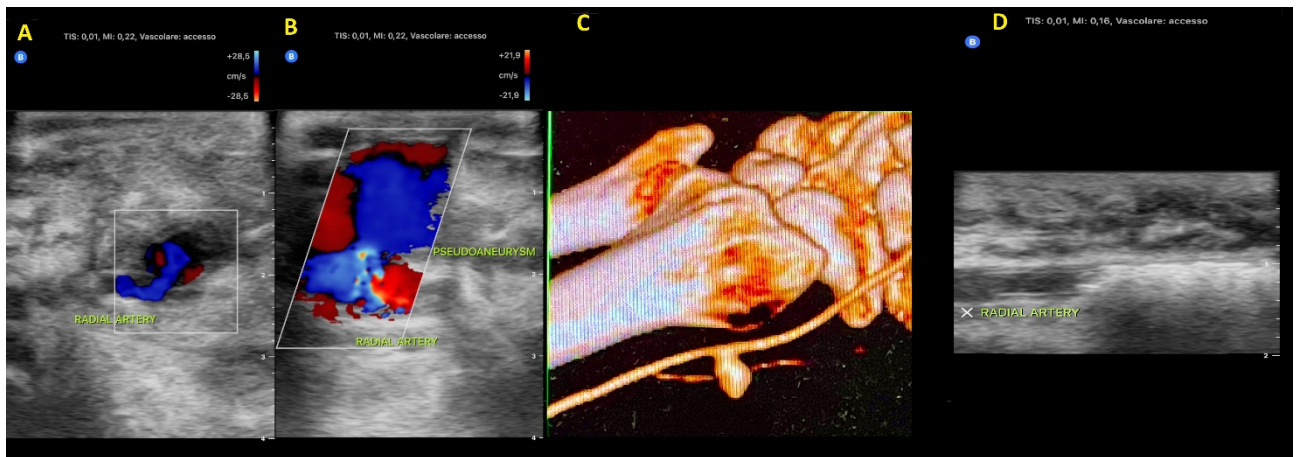


Figure 1.