Vascular surgery department adjustments in the era of the COVID-19 pandemic

In Portugal, a state of emergency was declared on March 18 because of the COVID-19 pandemic. Every nonessential business and activity was ceased, and home confinement was required for everyone not involved in essential activities.

This pandemic has brought significant changes to our personal and professional lives. Patients with vascular diseases are especially prone to development of complicated disease if infected by SARS-CoV-2.[1] It is our responsibility as vascular surgeons to protect our patients while keeping an active practice because most of our patients have a life- or limb-threatening disease.

We work in a tertiary university hospital in Lisbon, the capital of Portugal, which has a universal public health system. Our department is one of largest in the country and accommodates a significant part of all referrals to vascular surgery, including complex aortic diseases, with an annual volume of approximately 1700 vascular procedures. Most of our patients treated are urgent or emergent.

Among many other issues, this pandemic presented us with a considerable dilemma. As our hospital is the largest in Lisbon, we had to accommodate a significant number of the COVID-19 patients, including a high demand for intensive care unit (ICU) beds. Under these circumstances, how could we protect our patients and simultaneously keep up a practice to respond to urgent cases?

First, we postponed and discharged every patient we considered nonurgent: asymptomatic carotid stenosis, non-limb-threatening ischemia, aortic aneurysm <5.5 cm, and vascular malformations. All outpatient clinics were carried out by telemedicine, and only urgent patients were seen in person.

Second, we divided our entire staff into two teams alternating on a week-to-week basis. The staff with some ICU experience started to have specific ICU training to be called on to support COVID-19 ICUs if the hospital needed it. Senior staff was put on leave to be called on if necessary. All of this was done to obtain a maximum reserve of team members. Staff symptom checking was routinely performed to ensure that no one had contracted the disease, and all positive nonprotected contacts were sent home for quarantine.

Third, all our activity was turned toward urgent (chronic limb-threatening ischemia, symptomatic carotid stenosis, and aortic aneurysm >5.5 cm) and emergent patients. Whenever possible, we opted for an approach that shortened the length of stay: endovascular aneurysm repair, percutaneous approach, and use of local or regional anesthesia.

In the hospital, wards were divided into three types: triage (waiting for a SARS-CoV-2 result) and COVID-19 or non-COVID-19 wards. The same was done for ICUs.

As a measure to increase the ICU capacity, the vascular surgery ward was turned into an ICU to COVID-19 patients, which led us to reformulate the entire Heart and Vessels Department. In general, the noninfected vascular surgery patients are admitted in cardiothoracic surgery wards and infected patients in the cardiology wards.

The operating rooms were also divided into SARS-CoV-2-positive rooms, where full protection equipment is used, and SARS-CoV-2-negative rooms. Patients had to be asymptomatic and to have a negative test result to be operated on in the SARS-CoV-2-negative operating room. Emergent cases were assumed to be positive, and the recovery period took place in a triage ward or ICU until a test result was present.

So far, we have seen a significant decrease in the number of vascular urgent cases and even emergencies, which is probably due to the population confinement measures (reducing trauma, for example) and to patients being afraid to go to the hospital. There is a huge concern that after the crisis, we may end up with advanced stages of vascular diseases, like higher degrees of unsalvageable limbs.

So far, we have been able to maintain an active practice and to treat all urgent and emergent cases and have had no infections among our staff.

Some questions are now emerging regarding the true future impact of the pandemic state:

1. What will be the outcome of vascular patients who develop COVID-19?
2. What is the real impact on the outcome of elective patients who are being systematically postponed because of the current pandemic, and how will we be able to treat them in the future and at what cost?
3. Can the public health system accommodate the impact cost, and will we be able to deliver the same clinical standard of care to the huge number of patients who have seen their treatment postponed or canceled?
4. How will the weaning period be processed? What will be the right time to dismantle the ICUs and recover the vascular surgery ward to return to normal activity (can a short relapse of the pandemic state be predicted)?

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https://doi.org/10.1016/j.jvs.2020.04.017