



# Management and Treatment of Vascular Surgery Emergency Cases may be Impacted Negatively by the COVID-19 Pandemic

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## Editorial

On March 18<sup>th</sup> 2020, an 85-year-old man with abdominal pain was admitted to Emergency Room (ER) of a secondary hospital, where any vascular facilities had been suspended one week before because of the outbreak of the Severe Acute Respiratory Syndrome Coronavirus 2 Induced Disease (COVID-19). The patient was initially evaluated, but nobody focused on his anamnestic history of previous Endovascular Aortic Repair (EVAR) in 2014. After a few hours he was discharged with a diagnosis of cystitis. Twenty-two hours later, the patients readmitted with worsening of clinical status, and a thoracoabdominal Angio-CT revealed a covered rupture of the Abdominal Aortic Aneurysms (AAA) due endograft migration and type 1-A endoleak. He was immediately sent to our tertiary hospital according to the latest established centralization policy. At the same time a nasopharyngeal specimen collection was performed to test for the presence of CODIV-19, as currently mandatory for any new in-hospital case.

The patient was immediately moved to the operating theatre and endograft explanation with consecutive aorto-bisiliac reconstruction was performed. The entire team followed the national and local institutional COVID-19 policies with adequate Personal Protection Equipment (PPE) use for the management of suspected COVID-19 patients.

A few days later, an 81-year-old woman, living in a retirement home, complained about an unspecified right calf painful symptomatology. She was evaluated by the General Practitioner (GP), but because of fear of the virus she refused to be taken to the hospital. Despite the analgesic therapy, 2 days later she presented worsening of the clinical status (paresthesia and initial motor deficit), fever onset, and was finally sent to our emergency department. At admission at our hospital she was screened for COVID-19, and non-invasive tests revealed a diagnosis of acute popliteal artery occlusion with limb ischemia (Rutherford II-b), and a concurrent paroxysmal atrial fibrillation. While COVID-19 test was processing, the patient was moved to the operating room and a hybrid revascularization was performed, again by a team equipped with adequate PPE. At April 1<sup>st</sup>, 2020, per health monitoring activities related to the spread of coronavirus across Italian national territory a total of 110,574 people have tested positive, of those 16,847 patients have recovered and 13,155 died. Among the current 80,572 positive: 48,134 are isolated at home, 28,403 are admitted in hospital and 4,035 are in Intensive Care Units (ICU). Since February 2020 many severe actions have been taken to reduce the diffusion of the infection and guarantee optimal hospital assistance to COVID-19 patients with severe symptoms [1-3]. The government asked for a complete lockdown of the communities, while regional health care organizations decided to drain as much resources as possible in favor of COVID-19 emergency. Almost everywhere in the country routine outpatient clinics have been suspended, elective surgical cases postponed or stopped, and many hospitals have been converted to the treatment of infected patients exclusively. Due to the overload of patients requiring invasive treatment and permanent monitoring, some operative rooms have been converted to intensive care units. This kind of re-organization of the health care impacted on vascular surgical services, with reduction or complete cessation of outpatient facilities and elective cases. According to recommendation from scientific societies, management of symptomatic and urgent vascular patients should not be affected by the concomitant pandemic emergency. Unfortunately, as vascular surgeons working in a country with a large diffusion of the COVID-19 infection, our feeling is that the correct management of urgent vascular diseases is now negatively affected by the concurrent circumstances, namely: 1) Drainage of resource. In our regions some hospitals have been converted in dedicated COVID-19 clinics, and vascular surgeons have been

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repositioned in ICUs; 2) Delay in diagnosis. Patients with vascular symptoms are less prone to reach the emergency room for the fear of in-hospital virus infection; 3) Inappropriate evaluation at admission. The shortage of physicians dedicated to no-COVID patients at ER, and the waiting time required for the results of COVID tampon may be responsible for inadequate and incomplete diagnosis, as in the above-mentioned AAA patient. Although our hospital has not been dedicated exclusively to COVID-19 cases, and our vascular team has remained on call 24/7 for vascular cases, our preliminary data reveal a reduction of the number of vascular emergencies by 40% in February and March 2020 matched with the same period in 2019. Considering that the epidemic condition of the COVID-19 is still ongoing worldwide, and that there is no reason to think about a natural decrease of the incidence of vascular emergencies, the prompt diagnosis and treatment of the latest should not be disregarded. It is unfair that the management of a potentially treatable condition is euthanized at the price of another. We would like to recommend that: In-patient vascular surgery facilities should not be reduced or stopped

in any hospital; care systems should be prone to offer high-quality care for symptomatic aortic aneurysm and acute limb ischemia at all time but in particular at times of crisis; general practitioners and public should be aware that vascular team is fully operative all time. Everybody who is involved in health care system should be aware that the task of a correct diagnosis and prompt treatment of vascular emergencies should continue irrespectively from the terrible COVID-19 pandemic situation we all are experiencing.

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