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INVITED COMMENTARY

Acute Limb Ischaemia in the COVID-19 Era: a Clinical and Organisational Challenge

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In February 2020, the European Society for Vascular Surgery (ESVS) Clinical Practice Guidelines on the Management of Acute Limb Ischaemia (ALI) were published in an issue of this Journal.¹ They were the first ALI guidelines ever published and offered guidance on therapeutic decision making for this complex condition. Shortly after the release of the guidelines, the COVID-19 pandemic took the world by surprise, challenging health systems across the globe and transforming the way we practice medicine and surgery.^{2,3}

In the current issue, Jongkind and colleagues publish a much needed and timely update of the Acute Limb Ischaemia Guidelines in light of the COVID-19 pandemic, based on a scoping review of the literature.⁴ The authors have made considerable effort to ensure the information on which it is based is accurate and up to date. They have included an impressive 114 studies that have been published since the beginning of the pandemic approximately one and a half years ago. However, the situation is rapidly evolving, and further practice guidance is likely to be required in the future.

As highlighted in the paper most of the recommendations of the 2020 guidelines still stand with no changes proposed. The updated document, however, has noteworthy recommendations that should be considered when dealing with patients with ALI in the COVID era. Some important findings are: (1) a higher prevalence of ALI in patients with severe COVID. COVID-19 disease causes endothelial dysfunction, cytokine release, and hypercoagulability, which can contribute to thrombotic events. Because arterial thrombosis can occur without the traditional risk factors associated with ALI, a high index of suspicion is necessary to identify perfusion deficits and to provide adequate treatment. (2) Patients who are COVID positive and present with ALI often have synchronous thrombus in multiple locations. The authors therefore recommend that the whole arterial tree undergo imaging

(i.e., from arch to foot or hand). (3) Measuring levels of D-dimer should be considered in patients with COVID-19, as this could be a biomarker for arterial thrombotic complications. (4) Heparin resistance appears to be more common in patients with COVID-19, particularly in intensive care units. Finally, the most important suggested changes are at an organisational level. Such recommendations include consideration for the preferential use of local or locoregional anaesthesia for revascularisation to reduce infection risks for theatre personnel and to minimise the need for ICU support.

With countries, regions, and hospitals at different stages of community impact by COVID, local implementation of these updated guidelines will naturally differ. The key in dealing with ALI in the COVID era is balancing the urgency in providing efficient treatment with the conscious use of resources and protective measures to maintain the highest levels of care to patients and ensure the safety of health-care workers.

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