

Management of vasopressor induced ischemia, Livesey, et. al. *J Orthop.* 2020 Oct 16;22:497-502

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Level of Evidence: 5

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Millions of cases of severe sepsis and hypotension cases present to emergency departments in the United States each year requiring the use of vasopressors. Although vasopressors are the cornerstone therapy of treatment, many patients are impacted by the underreported adverse drug reaction: digital ischemia. This literature review formulated an algorithm stating the phases and recommended treatments the patients can undergo. This is imperative as there is very few literature on this topic and it will help educate physicians and students on this important matter.

Phase 1 clinical findings entail cold temperature, a dusky skin appearance and limited digital involvement. Treatment for phase 1 includes getting non-invasive measures, elevating the limb in order to diminish edema, utilizing a Bair hugger and performing a nerve block for pain management. If Phase I modalities fail to improve perfusion to ischemic digits, more invasive techniques may be indicated. Phase II clinical findings include multiple digits being affected, macroscopic vessel involvement and absent pulses. For phase II treatment, mechanical vasodilation such as topical lidocaine can be applied, and a fasciotomy may be performed to improve blood flow. Phase III clinical findings include establishing demarcated necrosis. The goal for phase III treatment is to minimize harm and maximize the function of the limb. Treatments include amputation, web-space deepening and reconstructive surgery. Lastly, Phase IV clinical findings include absent limb/digits (including auto-amputation). The goal for this phase is to improve function so patients may opt for prosthetics following full recovery.

This paper does a fantastic job in creating an algorithm that helps students and physicians in treating ischemia due to vasopressor therapy. It is important to educate physicians and students on effective and early interventions in order to save limbs and improve the patient's quality of life.



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