A NEW FROSTBITE TREATMENT PROTOCOL - PRELIMINARY RESULTS USING THROMBOLYSIS (255)

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Introduction: Frostbite can result in devastating injuries leading to significant morbidity, loss of function and frequently amputation. The treatment of frostbite injuries has traditionally been supportive with a very conservative approach. However, since the 1990s thrombolysis with tissue plasminogen activator (tPA) for limb and digit salvage in frostbite has been increasingly reported. We introduced a new frostbite treatment protocol, which included thrombolysis for severe cases of frostbite. The aim of this study was to evaluate the new protocol with a focus on the results of thrombolysis.

Methods: All frostbite patients underwent first clinical and then Doppler ultrasound examination. Angiography was conducted if certain criteria indicated a severe frostbite injury and if there were no thrombolysis contraindications. Intra-arterial tPA was then administered if angiography confirmed thrombosis.

Results: 11 patients with severe frostbite were diagnosed between 2013-2015. Angiography was performed in 5 cases and 4 of these received thrombolytic treatment with tPA. A pseudoaneurysm complicated one of these 4 cases and required treatment. None of the thrombolysis cases required an amputation.

6 patients did not meet the criteria for thrombolysis and 3 of these patients eventually required amputation. These 3 amputations occurred in 1 of 3 patients who received iloprost and in 2 patients presenting >48 hours after injury.

Conclusion: Although further studies are needed, our results support a new approach to the management of frostbite injury. Immediate assessment with angiography and infusion of tPA may reduce the risk of distal extremity amputation.