

**RF3. Successful Treatment of Meningococemia Related Acute Limb Ischemia with Catheter-Directed Tissue Plasminogen Activator (TPA) and Mechanical Thrombolysis**

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**OBJECTIVE:** To determine if catheter-directed thrombolytic therapy can reverse meningococemia-induced acute limb ischemia. Meningococcal sepsis is characterized by purpura fulminans, limb ischemia, disseminated intravascular coagulation, and multisystem organ failure. The microvascular manifestations of meningococemia are attributed to endotoxin release resulting in occlusion of dermal venules and capillaries by microthrombi. To our knowledge, this is the first description of catheter-directed TPA infusion and rheolytic thrombolysis in a patient with meningococcal sepsis and limb ischemia resulting in limb salvage.

**METHODS:** We present a case of a 15 year old female with meningococcal septicemia with extensive purpuric lesions, in fulminate septic shock, with mottling of her left foot and lack of doppler signals (Figure 1a, 1b). After aggressive resuscitation, she was taken to the angiography suite, where we identified an abrupt occlusion of the anterior tibial artery, with a distal occlusion of the posterior tibial artery (Figure 2a, 2b). Catheter-directed TPA delivery, Angiojet thrombectomy (Possis Medical, USA), balloon angioplasty, nitroglycerin (200 ug) and papaverine (60mg) infusion in the tibio-peroneal trunk, and anterior tibial artery were performed.

**RESULTS:** Within 12 hours of our intervention, clinical improvement was evident, with decreased mottling, improved capillary refill, and biphasic tibial doppler signals (Figure 3a, 3b). After a protracted hospital course, she was discharged with normal cognitive function. A partial debridement of the left anterior compartment was required; however, major amputation was avoided.

**CONCLUSION:** The mortality rate of fulminant meningococcal infections is roughly 40% in industrialized nations, with substantial morbidity from amputations. The successful treatment of acute limb ischemia in this patient cohort, with intravenous administration of TPA, is associated with a high rate of intracranial bleeding. Catheter-directed TPA therapy was an attractive option to minimize this potential morbidity. Direct correlation is difficult to discern, and other factors may have contributed to the dramatic improvement of the limb. Randomized controlled trials will determine the efficacy of catheter-directed TPA in this subgroup of patients.

