Physiologic Amputation of Acutely Ischemic Limbs in Burn Patients

Saturday, November 10, 2018
10:15 – 10:30 am

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Objective:	Upon completion of the lecture, attendees should be better prepared to: ▪ Identify patients that are too unstable for operative amputation and may benefit from physiologic amputation ▪ Demonstrate an algorithm for the safe and effective use of physiologic amputation in critically ill unstable patients with acute limb ischemia

Abstract:	**Introduction:** Severe burn injuries are often accompanied by multi-system derangements resulting from the massive release of myoglobin, leading to rhabdomyolysis. Multi-system organ failure, sepsis and death may follow. Burns with concomitant trauma place the patient at high risk for these complications. Specifically in the case of an acutely ischemic limb, source control is vital to preventing progression of these life-threatening complications. Unfortunately, these patients are often too unstable to undergo immediate formal amputation. Physiologic amputation by cryoamputation offers a temporizing measure to attenuate the release of toxins from the necrotizing extremity while the patient is stabilized for surgery. **Methods:** A systematic review of the literature was undertaken to describe the history of the physiologic amputation, indications for its use, methods of application, and outcomes. We present a case study describing the hospital course of a 23 year old male who suffered a 79.5% TBSA full thickness burns, multiple traumatic injuries and avulsion of the brachial artery resulting in right upper extremity ischemia. A knowledge gap was identified, and a process guideline for physiologic amputation was developed. **Results/Conclusions:** Physiologic amputation is a technically simple process, inexpensive and requires very few resources. It serves as a temporizing measure in patients who will eventually require formal limb amputation, but are too unstable to undergo surgery. Only a paucity of literature was identified describing physiologic amputations. Our case is similar to the documented cases, where worsening creatine kinase, lactic acidosis, renal function and hemodynamic instability precluded any formal amputation of his ischemic extremity. In our case, physiologic amputation slowed the patient's decompensation, sustaining him until family could arrive from out of town. Because this is not a frequently utilized intervention, a process guideline must be developed to assist all team members in identifying appropriate patients, obtaining needed materials, applying the treatment, and assessing adequacy of therapy and outcomes.

References and Resources:

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DOI: 10.1177/1460408614557858

Disclosure:

Gretchen M. Stieg – No Relevant Financial Relationships to Disclose
Susan Smith – No Relevant Financial Relationships to Disclose
Howard Smith – No Relevant Financial Relationships to Disclose