

The Effect of Valproic Acid upon Skeletal Muscle Subjected to Prolonged Tourniquet Application

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- Valproic acid treatment has been shown to improve outcomes in ischemia-based injuries
- Prolonged tourniquet application creates ischemia and significant morbidity
- Future military landscapes may not guarantee rapid evacuation requiring extended tourniquet applications for hemorrhage control

Three hour tourniquet application in a rat hemorrhage model with Valproic acid treatment

- Pro-survival pAkt signaling in muscle was significantly improved with treatment
- Systemic pro-inflammatory cytokines were significantly reduced
- Glomerular filtration rate decrements were significantly improved
- These findings did not translate into improved limb function post-injury