

The purposes of this study were to compare administration time of Hextend and the effects on hemodynamics when Hextend is administered by the sternal IO (SIO) and IV routes in a swine model of hemorrhagic shock” Johnson et al (2015).

Reference:

Johnson, D., Penaranda, C., Phillips, K., Rice, D., Vanderhoek, L., Gegel, B., Burgert, J. and Blanco, J. (2015) Effects of sternal intraosseous and intravenous administration of Hextend on time of administration and hemodynamics in a swine model of hemorrhagic shock. American Journal of Disaster Medicine. 10(1), p.61-67.

ReTweet if useful... Effects of intraosseous and intravenous administration of Hextend
<http://ctt.ec/i38Vg+> @ivteam #ivteam

Click To Tweet

Abstract:

OBJECTIVE: Disasters may cause traumatic injuries leading to hemorrhage. Hemorrhage is the leading cause of death for military and civilian trauma casualties. The US Army’s Tactical Combat Casualty Care guidelines recommend administering a 500 mL Hextend bolus via the intravenous (IV) or intraosseous (IO) routes for patients in hypovolemic shock. The purposes of this study were to compare administration time of Hextend and the effects on hemodynamics when Hextend is administered by the sternal IO (SIO) and IV routes in a swine model of hemorrhagic shock.

DESIGN: This was a prospective, experimental study with random assignment.

SETTING: The study was implemented at an animal vivarium.

SUBJECTS: Yorkshire-cross (N = 21) swine were used.

INTERVENTION: Each swine was hemorrhaged 30 percent of their total blood volume to simulate a class II hemorrhage; 500 mL of Hextend was administered by the SIO and IV routes after hemorrhage. The control group did not receive any resuscitative fluids.

MAIN OUTCOME MEASUREMENTS: The predetermined variables of the study were time of administration and hemodynamics over 8 minutes. Hemodynamic data were collected every 2 minutes until administration was complete.

RESULTS: There were no significant differences in the time to administer Hextend between the SIO (616 ± 166 seconds) and the IV groups (534 ± 151 seconds) ($p = 0.37$). There were no significant differences between the SIO and IV groups relative to hemodynamics ($p > 0.05$), but both were significantly different than the control group ($p < 0.05$).

CONCLUSION: The SIO route is an effective method of administering Hextend.

Thank you to our partners for supporting IVTEAM