A COMPARATIVE STUDY OF THE EFFECT OF DIFFERENT STENT BANDAGES ON THE LIKELIHOOD OF INCISIONAL COMPLICATIONS FOLLOWING EXPLORATORY LAPAROTOMY IN HORSES WITH COLIC

Kilcoyne I., Nieto J.E. and Dechant J.E.
Department of Surgical and Radiological Sciences, School of Veterinary Medicine, University of California at Davis, California 95616.
Enteral: ikilcoyne@ucdavis.edu.

Background: Incisional infections are a common complication following colic surgery and a significant cause of morbidity and expense.

Objective: To determine the effect of different stent bandages on the likelihood of incisonal infection after ventral midline exploratory celiotomy.

Methods: Prospective study of 85 horses. Cases presenting to the William R. Pritchard VMTH between July 2014 and January 2016 were included. The study population consisted of horses that fulfilled the following inclusion criteria: 1) had a ventral midline celiotomy, 2) survived ≥90 days post surgery 3) did not undergo repeat celiotomy and 4) for which follow up was available at day 30 and day 90 post-operatively. Horses were randomly assigned to one of 3 groups. Group 1 cases had a sterile blue towel stent placed over the abdominal incision secured with no. 2 non-absorbable monofilament suture using 3–4 cruciate sutures. Group 2 horses had a Kerlix AMD dressing placed over the incision secured in place with no. 2 non-absorbable monofilament suture using 3-4 cruciate sutures. Group 3 horses had sterile gauze placed over the incision covered by a protective iodine-impregnated adhesive drape.

Results: Purulent or persistent serosanguinous discharge was observed either prior to discharge or after returning home in 11 (14.7%) of 75 horses, including 2 Group 1 horses and 9 Group 3 horses. None of the horses in Group 2 developed incisional drainage (P < 0.001).

Conclusions: Use of a Kerlix AMD dressing over the incision significantly reduces the prevalence of incisonal infection in horses undergoing exploratory celiotomy for colic.

Ethical animal research: Owner consent obtained. Source of funding: None. Competing interests: None.

THE EFFECT OF CONTINUOUS DIGITAL HYPOTHERMIA ON LAMELLAR ENERGY METABOLISM AND PERFUSION DURING THE DEVELOPMENT OF LAMINITIS IN THE OLIGOFRUCTOSE MODEL

1,2van Eps A.W., 2Poulten L., 1Belknap J.K., 1Underwood C., 1Schneider X.J. and 1Stokes S.M.

Australian Equine Research Unit, School of Veterinary Science, The University of Queensland, Gatton, Queensland, Australia; 2Department of Clinical Studies, University of Pennsylvania, New Bolton Center, Kennett Square, PA, USA; 3Department of Large Animal Science, School of Veterinary Medicine, University of Copenhagen, Copenhagen, Copenhagen, Denmark; 4Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Ohio State University, USA.

Background: Previous studies have demonstrated a protective effect of continuous digital hypothermia (CDH) against the development of sepsis-related laminitis however the mechanisms are not understood. Non-ischemic bioenergetic failure is implicated in sepsis-induced organ dysfunction and therapeutic hypothermia may prevent this.

Objectives: To determine the effects of CDH on lamellar energy metabolism in normal horses and during laminitis induction using the oligofructose (OF) model.

Methods: Fourteen adult Standardbred horses were randomly assigned to laminitis induction (OF; n = 6) or a control (CON; n = 8) group. Microdialysis probes were inserted into both front and hind feet and CDH was instituted in one forelimb (ICE) from 12 h onwards (opposite limb ambient; AMB). Dialysate was collected every 6 h for a 36 h total experimental period. Energy metabolites (glucose, lactate, pyruvate) and standard indices of metabolism including lactate to pyruvate ratio (L:P) were measured. Microdialysis urea clearance was used to estimate tissue perfusion. Data were analysed parametrically.

Results: Lactate and pyruvate concentrations were markedly decreased after CDH application in CON-ICE and OF-ICE limbs (P < 0.05). The L:P was significantly reduced in the OF-AMB limbs from 30 h with a mean ± s.e. peak of 52.91 ± 16.27 at 36 h (simultaneous L:P in ICE-OF limbs 19.5 ± 12.43). Application of CDH significantly increased urea clearance in both CON-ICE and OF-ICE limbs at 18 h, an effect sustained in CON-ICE only.

Conclusions: CDH had a profound hypometabolic effect in the lamellae which appeared to protect against bioenergetic failure (evidenced by increased L:P) in this model.

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