

Editorial

Benefits of Perioperative Acupuncture – One Health Intersection of Animals and Humans

Anesthetic risk associated with surgery is a common clinical challenge that most veterinarians face. Geriatrics, juveniles and patients with concurrent disease are of particular concern. Intraoperative analgesia (injectable or inhalant) and its adverse effects, has been a rich source of human and animal investigative studies. To mitigate these potential effects by reducing the amount of anesthetic used, pain relief during surgery is augmented through the use of opioids. It has been demonstrated that clinically therapeutic doses of morphine, through pain reduction, can reduce minimal alveolar concentration (MAC) of inhalation anesthetics in dogs by as much as 60%.¹ The reduction of anesthetics and their associated adverse cardiovascular effects, however, comes at the cost of opioids potentially producing their own adverse effects such as vomiting/nausea, delayed postoperative recovery and a decreased level of consciousness.

The *Journal of the American Veterinary Medical Association* recently published an interesting article in their “Currents in One Health”, where intersections of animal and human health are examined. The emerging concept, “enhanced recovery after surgery (ERAS),” in human medicine with its benefits was presented along with a discussion of opportunities to apply ERAS in veterinary medicine.² In humans, this approach is designed to improve patient outcome following surgery by rethinking the preoperative, intraoperative and postoperative periods. It can include widely diverse interventions such as anesthetic reduction with reduced recovery times, optimization of nutrition, use of non-opioid analgesia and early mobilization.^{3,4} In human health, the ERAS techniques have reduced hospital stays and surgical complications, particularly in at-risk populations. This translates into patients returning to normal activity more quickly accompanied by significant cost reductions.⁵

The *British Journal of Anesthesia* takes perioperative innovation a step further with an evidence-based review of the potential contribution of acupuncture to perioperative medicine and anesthesia.⁶ The authors of this review article conclude that evidence from clinical trials and updated reviews suggest the role of acupuncture in perioperative medicine extends beyond

the classical scope of anesthesia and has been underestimated. It not only reduces consumption of anesthetics and analgesics, but reduces anesthetic complications, as well as provides organ protection during the perioperative period. A review of perioperative acupuncture in *Anesthesiology* additionally noted the benefit of preoperative relaxation/sedation in humans, postoperative pain relief, and treatment or prophylaxis for postoperative vomiting/nausea.⁷

As the veterinary community starts to take notice of ERAS protocols designed for human surgery, veterinary investigators are starting to evaluate the benefits of these techniques, along with optimizing their application in animals. Practitioners of traditional Chinese veterinary medicine should take note as they have a number of rich sources to investigate that could benefit surgical outcomes. Acupuncture can decrease inhalant anesthetics, opioid use and injectable anesthetics, in addition to providing locoregional analgesia.^{2,3,8,9} Issues for veterinarians, such as dislodged needles during surgery and recovery, potentially might be addressed by using TENS unit type pads over shaved acupoints connected to the acupunctoscope. Securely attached with surgical tape, acupoint stimulation would be provided without constant needle monitoring. Chinese food therapy could benefit patients both before and after surgery to address Qi and Blood Deficiencies associated with surgery and help balance TCVM Patterns. Consideration of herbal formulas to prevent/treat hemorrhage and mitigate Deficiency or Excess conditions created by surgical procedures is another broad area filled with possibilities.

In this issue, AJTCVM presents 2 clinical studies investigating the association of electro-acupuncture and perioperative outcomes in elective small animal surgeries. The research in this area is in its infancy but it is hoped more veterinary investigators will start to look at the rich area of traditional Chinese medicine to provide improved surgical outcomes for patients with publication of their findings in scientific journals.

Respectfully Submitted,

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