Complementary and Alternative Therapies: How to choose?

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Definitions

• Conventional medicine:
  – “Western” or allopathic medicine (DVM, Tech)
  – Based on scientific evidence
  – Use approved drugs (FDA)
    • Safe and efficacious
    • Stringent process
      – New drug: 7-10 years
      – 2-3 animal studies
      – 50-200 animals per study
      – Cost around $100M
  – Approval of veterinary medical devices not required by FDA
Definitions

• Alternative Medicine:
  – Non-conventional medicine
  – Based on historical or cultural traditions
    • Empirical evidence rather than scientific evidence

• Complementary Medicine:
  – Use of alternative together with conventional medicine
Different types of CAM

• Natural products
  – Herbal medicine
  – Dietary supplements (vit., minerals, probiotics, omega 3s, etc.)

• Mind and body medicine
  – Acupuncture, tai chi, yoga

• Manipulative & body-based practices
  – Chiropractic & osteopathic therapy, massage, etc.

• Other
  – Magnetic & light therapy, homeopathy, naturopathy, traditional healers, etc.

National Center for Complementary and Alternative Medicine (NIH)
Issues with CAM

- Increasing number of innovative products/procedures
- Increasing demand for CAM
- Safety and efficacy of many CAM therapies are uncertain
  - Dietary supplements do not have to prove safety and effectiveness (FDA monitors safety)
  - No standardized, national system for credentialing CAM practitioners
- Lack of scientific studies for many CAM
Evidence-based medicine

• Definition:
  – Using current best evidence as the basis for clinical decisions

• Approach to EBM
  – Establish appropriate diagnosis
  – Best evidence from clinical research (not textbook, reviews, lecture notes, etc.)
  – Treatment choice based on context
Evidence-based medicine

• How to judge the evidence
  – Peer reviewed
  – Attempt to limit biases
    • Investigator “masked”
    • Control (placebo, sham)
    • Randomization
  – Strength of research evidence:
    • Study design
Evidence-based medicine

- Therapeutic goal
  - Use of the horse
  - Severity of disease
  - Prior treatments
Evidence-based medicine

- Decision making process
  - Clinical judgment
  - Critical review of scientific evidence
  - Horse/owner/DVM relationship
Acupuncture

• Acupuncture
  – Equine acupuncture >1000 years in China
  – Based on traditional doctrines
  – Mainly used for pain control (e.g. chronic back pain)

• EBM (PubMed, 75 citations)
  – Electro-acupuncture for back pain (Xie, *JAVMA* 2005)
    • 3 groups: acupuncture (8), “bute” (8), placebo (4)
    • Back pain score by masked DVM
    • Evaluation during Rx and 2-week follow-up
Acupuncture

Effect of treatment on back pain

![Graph showing the effect of treatment on back pain over time, comparing Acupuncture, Bute, and Placebo.](image)
Chiropractic

• Goal:
  – Manipulations/adjustments to reduce pain and spasms and return joint motion

• EBM (PubMed, 14 citations)
  – Effect of spinal manipulation (Haussler et al. EVJ 2010)
    • 2 groups: 24 horses with back pain
      – Control (passive manipulations; 12)
      – Treatment (chiropractic manipulations; 12)
    • Measured vertical displacement & applied force once a week for 3 weeks

• Results:
  – Vertical displacement (+40% in treatment; +19% in control)
  – Change in applied forces (+20% in treatment; +4% in control)
Device evaluation

- Use of VibraVM® to treat heaves
- Study
  - Randomized, crossover, blinded, sham-controlled
    - 4 weeks/arm
    - 2 weeks “wash-out”
  - Moldy hay model (n=9)
  - Data collection
    - Clinical score 3x/week
    - Lung function test every week

Goncarvos et al, J Vet Intern Med 2010
Results

Clinical Score (Tesarowski)

Score (0-21) vs Day

VibraVM
Sham

P = 0.59
Results

Maximum Change in Transpulmonary Pressure

$P = 0.49$
How to choose the right treatment?

1. Do your homework
2. Establish an accurate diagnosis (DVM)
3. Discuss best approach (Allopathy, alternative or CAM)
4. Work with qualified CAM therapists
   • Your DVM can help
5. What is the evidence for CAM for this type of problem?
6. If no scientific evidence
   • Careful follow-up to assess safety & effectiveness
   • Acknowledge lack of effectiveness – referral / alternative
   • Remain open-minded
Conclusion

- Very few studies on CAM in horses

Before considering CAM

1. Correct diagnosis?
2. Is conventional Rx available
   - How effective/safe?
3. If no = consider CAM

- First, do no harm!
- CAM is still medicine – should not be practiced by layperson
Questions?