Title:
Comparison of two collection methods for cerebrospinal fluid analysis from the standing, sedate adult horse

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Study description:
Cerebrospinal fluid analysis is critical for making a diagnosis for many equine neurologic diseases, and collection from the neurologic horse can present a diagnostic challenge from both a safety standpoint as well as from a technical perspective. Recently, a new ultrasound guided technique for collecting cerebrospinal fluid from the space between the first and second cervical vertebrae (C1-C2) was described in standing, sedate adult horses. While there may be benefits to this approach including less risk of injury to the horse and veterinarian, and potentially less blood contamination in samples, this new technique and the acquired fluid samples have not been compared to the traditional technique, the lumbosacral centesis. The purpose of this study is to determine whether there is a difference in CSF characteristics, difficulty of the procedure and adverse reactions between CSF collection from the LS site versus the C1-C2 site.

Client-owned horses seen at the UGA Veterinary Teaching Hospital for neurologic evaluation will be eligible to participate. Complete physical examination and neurologic examination will be performed prior to inclusion in the study. Approximately 2 teaspoons of blood will be collected for paired analysis with cerebrospinal fluid. Horses will be sedated prior to the procedures, and each sampling site will be clipped and aseptically prepared. After a local anesthetic skin block has been administered to both sites (C1-C2 and lumbosacral spine) cerebrospinal fluid will be collected and horses will receive an anti-inflammatory post procedure to minimize any discomfort or inflammation that may occur due to sampling.

Costs associated with the cerebrospinal fluid sampling procedure, sedation and anti-inflammatory medication will be paid for by the study (approximately $180.00 in savings from a typical neurologic work-up). Owners will be responsible for all other expenses pertaining to their horse’s neurologic exam, including additional diagnostic tests when indicated (e.g. testing for specific diseases, neck x-rays) and though not anticipated, costs of any adverse events should they occur.

Duration of study:
The study is currently OPEN.

Potential benefits to veterinary medicine:
Results from the study are expected to provide important information regarding the safety and diagnostic utility of two procedures; ultimately identifying an optimal approach and improving the ability of veterinarians to accurately diagnose, treat and manage horses with neurologic conditions.