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ABSTRACT

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LARGE ANIMAL

RESIDENT'S FORUM - LARGE ANIMAL GENERAL

Diagnostic Performance of 3 Tesla Magnetic Resonance Imaging and Multidetector Computed tomographic Tenography to Identify Artificially Induced Soft Tissue Lesions in the Equine Cadaveric Digital Flexor Tendon Sheath

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Objectives: Ultrasonography and contrast tenography are often inaccurate to detect intrathecal soft tissue lesions. Computed tomography in combination with intrathecal contrast media (CTT) could be helpful in diagnosing digital flexor tendon sheath (DFTS) pathologies. The study aimed at comparing the sensitivity and specificity of CTT and 3T magnetic resonance imaging (MRI) to detect tenovaginoscopically induced soft tissue lesions within the DFTS.
Methods: Using an arthroscopic hook knife defects (10-20 mm long, 3-5 mm deep) (n=52) were created tenovaginoscopically in the superficial digital flexor tendon (SDFT), deep digital flexor tendon (DDFT), manica flexoria (MF) and scutum. MRI and CTT were performed and images reviewed. Sensitivity and specificity were calculated for each modality and diagnostic performance (DP) of both modalities compared.
Results: MRI and CTT showed similarly high true positive rates for SDFT (75%) and MF (85%) lesions. Specificities were equally high for MF lesions (96%). In the SDFT the specificity was not significantly higher for CTT (85%) versus MRI (77%) (P=0.88). Sensitivity was not significantly higher for MRI versus CTT for DDFT (62% versus 38%, P=0.58) and scutum defects (93% versus 57%, P=0.17). Specificity values were excellent for both, CTT and MRI (DDFT: 96% versus 92%, scutum: 100% versus 96%, P=1).
Conclusions: DP of both modalities are good to excellent. The results picture a future application of standing CTT in clinical cases with the DP being comparable to high field MRI. Horses with suspected MF tears would be suited candidates to undergo CTT.

Differences in Serum and Peritoneal Fluid Metabolomes Identify Potential Biomarkers Associated with the Presence of Small Intestinal Strangulating Lesions

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Objectives: Strangulating small intestinal disease (SSID) carries a variable prognosis, particularly if an extensive resection is required. Identification of biomarkers aiding early diagnosis may reduce the need for resection. Our objectives are to investigate serum and peritoneal fluid (PF) metabolomes in horses diagnosed with SSID, to identify novel biomarkers which may be of diagnostic value.
Methods: Matched serum and, where indicated, PF was obtained from 50 horses presenting for colic, requiring

surrounding tissue with neoplasia was successful by caudal midline laparotomy.

Retrospective Analysis of Soft Tissue injuries Treated with Allogenic Bone Marrow Derived Mesenchymal Stem Cells

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Objectives: Tendon and ligament pathology has been managed successfully with mesenchymal stem cells from various biological sources. This retrospective study aims to evaluate the re-injury rate of the treatment of tendon and ligament lesions with allogenic bone marrow derived mesenchymal stem cells (BM-MSCs).
Methods: Data from horses treated with allogenic BM-MSCs was recovered retrospectively from hospital records. Horses were included if they were solely treated with BM-MSCs, received only one treatment, had no other concurrent lesion at the time of treatment, and had sufficient information about lameness and ultrasound evaluations. Outcome was evaluated in terms of re-injury within 12 months after treatment. Frequency counts were calculated, and a chi-square test of homogeneity was used to determine whether distribution was identical across different disciplines and different anatomic structures.
Results: Forty-two horses were included: 8 show jumpers, 15 dressage horses, 15 Standardbreds and 7 leisure horses. There were 22 digital flexor tendons and 20 ligament injuries. The overall re-injury rate was 33%. No statistical evidence was found to conclude that re-injury rate was influenced by discipline (p-value = 0.987) or anatomic structure (p-value = 0.592). No adverse reactions were observed on the treated horses.
Conclusions: The treatment was safe, and re-injury rate was lower than reported when using conventional therapies. Our sample suggests that re-injury rate is the same across the different disciplines and anatomic structures. Further studies should be conducted, imposing a larger sample size and a control group.

Acquired Large Colon Strangulating Inguinal Herniation in Two Arabian Foals

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Objectives: Acquired inguinal hernias occur most commonly in stallions, rarely in geldings or mares and have been reported in foals. History typically includes exertional activity, live breeding or recent castration. Most acquired inguinal hernias in horses are indirect, and commonly involve segments of the small intestines and rarely small or large colon.
Incarcerated inguinal hernias typically require surgical treatment and are commonly approached by performing concurrent ventral midline celiotomy and inguinal incisions. Castration of the ipsilateral testis is usually recommended.
Methods: Case 1, a six week-old Arabian foal, presented to the VTH for colic due to right inguinal hernia. He underwent surgery and was diagnosed with right indirect pelvic flexure herniation. Case 2, an eight week-old Arabian foal, presented to the VTH for colic due to left inguinal hernia. Upon surgery he was diagnosed with direct left inguinal hernia of the ascending colon.
Results: Both colts underwent successful reduction of the herniated large colon using concurrent ventral midline celiotomy and inguinal incisions. In both cases the ipsilateral testis was spared due to owner's request. The foals recovered well and were discharged home.
Conclusions: In this report we describe the clinical presentation and successful treatment, including sparing the ipsilateral testis of strangulating large colon inguinal herniation in two Arabian foals. Additional unique aspects of the current report are the uncommon breed, and the second case presented with direct hernia.
Large colon inguinal herniation is an uncommon condition in horses; additional descriptions will contribute to better understanding the pathology.

Significance of a Single Plasma SAA Measurement at Admission in Horses with Suspected Synovial Structure Involvement

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Objectives: The aim of this retrospective study was to evaluate if a single Serum-Amyloid-A (SAA) measurement taken at admission can be used to rule out synovial involvement in horses presented with
wounds adjacent to synovial structures.
Methods: Data from horses admitted to the Equine Hospital, Vetmeduni Vienna, from January 2016 to December 2020 were recorded. Inclusion criteria consisted of wounds adjacent to synovial structures and a blood SAA measurement performed around the time of admission. Data were analyzed using a logistic regression model (RStudio Team 2021).