Angiographic variation of the carotid trifurcation and the internal carotid arteries of donkeys

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Aims: To determine if there are variations in the anatomy of the internal carotid artery in both horse and donkey. Methods: Twenty-six donkey cadaver head and necks from animals of mixed age and sex were collected with the guttural pouch and the carotid trifurcation intact. The specimens were subjected to angiography, arterial latex casting and dissection. Angiography was performed using a Ziehm Vision FD Vario 3D Image Intensifier. Results: Four distinct variations of the common carotid artery termination were identified as follows: (i) the internal carotid artery and the occipital artery arose as a common trunk, (ii) the external carotid artery was very short, giving the appearance of the common carotid artery terminating into 4 branches, (iii) the common carotid artery terminated into 4 branches with the origin of the internal carotid artery close to the termination, (iv) the origin of the internal carotid artery was not from the common carotid artery termination. Instead the internal carotid artery originated caudal to the common carotid artery termination. Conclusion and practical significance: This study showed that the carotid arterial tree of the donkey may differ greatly compared to the horse and that there is considerable variation between individual donkeys. Currently, there are scant anecdotical reports of guttural pouch mycosis in the donkey. Anatomical variation may have a part to play in susceptibility to this disease. Furthermore a good understanding of the anatomy and its variation is crucial during surgery in this region. Acknowledgements: The Donkey Sanctuary.

Clinical findings and diagnosis of aortopulmonary fistula in four Friesian horses

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Aims: To report the results of clinical examination, blood examination, cardiac ultrasound and cardiac catheterisation in 4 Friesian horses with an acquired aortopulmonary fistula due to aortic rupture. Methods: Four Friesian horses (age 1–7 years; 3 mares and 1 gelding) were presented at the university hospital for reasons of colic and tachycardia. Duration of the clinical signs varied from 6 h to 2 weeks. Results: All horses presented with sinus tachycardia (64–96 beats/min) with a marked bounding pulsation of the common carotid artery. Respiratory rate ranged between 24–80 breaths/min. A holosystolic and early diastolic murmur over the aortic valve was present in 2 horses. Abnormal haematological findings included mild anaemia and thrombocytopenia and an increased CK, LDH and cTnI. Thoracic radiography (n = 2) and ultrasound (n = 4) showed an increased diameter of pulmonary vessels and signs of pulmonary oedema in one horse and a small amount of thoracic fluid (n = 3). In all but one horse, cardiac ultrasound revealed fistulation of the aorta into the pulmonary artery with turbulent flow in the pulmonary artery, blood accumulation between both vessels (n = 2) and pulmonary wall dissection (n = 2). In all horses, cardiac catheterisation showed increased right heart pressures and pulmonary hypertension with increased P<sub>50</sub>O<sub>2</sub> and saturation in the distal pulmonary artery approaching systemic values (n = 3). One horse died after 10 h; the others were subjected to euthanasia after 1–7 days. Post mortem confirmed an aortopulmonary fistula near (but not at) the remnant of the ductus arteriosus in all horses. Conclusions and practical significance: Aortopulmonary fistula should be included in the differential diagnosis of colic combined with tachycardia. Friesian horses are predisposed to this condition of which diagnosis is made by thorough ultrasonographic examination and cardiac catheterisation. Horses may survive for several weeks but the condition is usually fatal.

Myocardial dysfunction in horses with acute abdominal disease


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Aims: To evaluate myocardial function in horses with acute abdominal disease. Methods: Eighteen clinically healthy horses and 69 horses with one of 3 categories of acute abdominal disease were studied: Strangulating obstruction, nonstrangulating obstruction or inflammatory disease. Heart rate, lactate, haematocrit and cTnI were measured at presentation. Fractional shortening (FS), left ventricular ejection time (LVET) and ECG were assessed in clinically healthy horses, the day after surgery in horses with intestinal obstruction and the day after presentation in horses with inflammatory disease. Proportions were compared using Fisher’s exact test and associations between values of cTnI, lactate and LVET in horses with abdominal disease were estimated using Spearman’s rank correlation coefficient (r). Results: The proportion of horses with elevated (>0.03 ng/ml) cTnI was significantly greater in horses with strangulating (9/25, 36%, P = 0.006) or inflammatory (9/19, 47%, P = 0.001) lesions compared to clinically healthy horses (0/18). The proportion of horses with elevated cTnI was not different in horses with...
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The impact of pneumonia during the first six months of life on subsequent racing performance in a cohort of Thoroughbreds

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Aim: This study was designed to examine the impact of pneumonia during the first 6 months of life on subsequent racing performance. Methods: A retrospective study of veterinary records, provided by a large Thoroughbred breeding operation was carried out. Content analysis was used to identify all horses born from 2000–2005, inclusive that had suffered from pneumonia during their first 6 months of life. The hypotheses were that foal pneumonia was associated with either a reduced likelihood of racing or, for those horses that did race, a reduced level of performance. Chi-squared tests were performed to identify if foal pneumonia was associated with the likelihood that horses would race at least once. Two-sample t tests or Mann Whitney tests were performed on a range of performance variables to identify associations between early foal pneumonia and subsequent racing performance.

Results: From a total of 1200 foals, 56 (4.7%) of these, 64% (n = 36) raced at least once. In comparison, 67% (771/1144) of horses that did not suffer from pneumonia raced at least once (P = 0.22). Pneumonia contracted during the first 6 months of life was not associated with the number of career starts (P = 0.18), wins (P = 0.74) or places (P = 0.55). Nor was it associated with total career earnings (P = 0.90) or average earnings (P = 0.85) or maximum (P = 0.93) Racing Post or Official Ratings.

Conclusions and practical significance: There appears to be little impact of foal pneumonia on subsequent racing performance. This may be due to the high level of veterinary treatment these animals receive, which is successful in reducing the long-term impact of pneumonia. Acknowledgements: Funding was generously provided by the Beaufort Cottage Educational Trust.

Diagnosis of pulmonary abscesses in foals: Comparison of ultrasonographic and radiographic examination at early stage of the disease

10.00–10.15

In vitro effect of right-sided abduction and transection of the transverse arytenoid ligament on abduction of the left arytenoid cartilage during equine laryngoplasty

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Aims: To test the hypotheses that abduction of the right arytenoid cartilage reduces abduction of the left arytenoid cartilage, and that transection of the transverse arytenoid ligament (TAL) in combination with prosthetic laryngoplasty (PL) would minimise the effect of right arytenoid cartilage abduction on left arytenoid cartilage abduction. Methods: A standard PL technique was used to abduct both arytenoid cartilages of 6 larynges. The mean force required to maximally abduct the left and the right arytenoid cartilages of the 6 larynges was recorded (Fmax), and divided into 9 and 3 force levels for the left and right arytenoid cartilages respectively. Photographs were taken at every combination of force applied to the left and right arytenoid cartilages before and after TAL transection (TALT). Mean arytenoid angles and left glottic cross-sectional area were calculated. Tukeys post hoc tests were
used to determine differences with PL and TALT-PL. Longitudinal and transverse sections of the TAL obtained from 7 other larynges were examined histologically. Results: TALT and force on the right and left arytenoid cartilages significantly affected left arytenoid cartilage abduction (all \( P<0.0001 \)). Left arytenoid cartilage abduction was significantly lower with PL alone than after TALT-PL (\( P<0.001 \)). As the force applied to the right arytenoid cartilage was increased, a progressive decrease in left arytenoid cartilage abduction was seen (\( P<0.0001 \), multiple comparisons all \( P<0.05 \)).

Conclusions and practical significance: Abduction of the right arytenoid cartilage, such as occurs immediately after swallowing or during strenuous exercise, reduces abduction of the left arytenoid cartilage, the effect of which is minimised by TALT. Abduction of the right arytenoid cartilage after swallowing may be a mechanism by which abduction of the left arytenoid cartilage is gradually lost after PL. Transecting the TAL when performing a PL may minimise the loss of abduction that often occurs in the immediate post operative period.