Results: Of 140 samples with documented “retinal vacuolation,” 4 out of 120 (3%) canine samples and 1 out of 20 (5%) feline samples had changes consistent with retinoschisis. In the majority of cases (80%), there was concurrent retinal detachment. In cases with available histories, increased intraocular pressure, proptosis, and retinal detachment were reported clinical findings.

Conclusion: In cats and dogs, retinoschisis is an uncommon change that is generally secondary to other ocular lesions.

37: GROSS AND HISTOLOGIC FINDINGS IN STILLBORN PIGS WITH PULMONARY HYPOPLASIA WITH ANASARCA

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Over the past decade, an abnormal phenotype colloquially referred to as “waterbelly” has been observed in the Chester White breed of swine. Recently, a nonsynonymous mutation in the ADAM metallopeptidase with thrombospondin type 1 motif 3 (*ADAMTS3*) gene has been associated with this phenotype. In mice and cattle, loss-of-function mutations in *ADAMTS3* have been associated with a recessive condition named pulmonary hypoplasia with anasarca (PHA). PHA is a fatal congenital condition in which bovine and ovine fetuses develop severe subcutaneous edema, have incompletely developed lungs, and lymphatic dysplasia. Increased fetus size due to extensive edema often leads to dystocia if not previously aborted. This condition has been reported in Dexter, Maine-Anjou, Shorthorn, Slovenian Cika, and their associated crosses in addition to various breeds of sheep. *ADAMTS3* knock out mice do not develop lymphatic vessels leading to a severe lymphedema. Additionally, lymph nodes were not observed in Cika calves born with PHA. The purpose of this pilot study is to characterize the gross and histopathological findings in stillborn pigs with PHA to support the hypothesis that lymphatic dysplasia is present in skin histopathology sections suggesting a conserved pathological mechanism for PHA across bovine, ovine, and porcine species. Grossly, affected stillborn pigs had severe subcutaneous edema, decreased lung size, and more prominent lymphatic vessels compared to unaffected animals. Histologically, lymphatic vessels in affected animals were subjectively markedly dilated compared to lymphatic vessels in control animals.

38: EVALUATION OF THE ROLE OF AB BLOOD SYSTEM PHENOTYPES IN FELINE LEISHMANIOSIS

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Background: In people susceptibility to certain diseases can be influenced by blood type. For example, studies have shown that cutaneous leishmaniosis is more common in people with Rh-negative blood groups with B alleles. Little is known about the role of blood types in feline infections. Feline leishmaniosis is an emergent disease, and rate of infection in cats in endemic regions varies based on different factors.

Objective: To evaluate if AB blood system phenotypes A, B or AB are associated with natural infection by *Leishmania infantum* in cats from Italy, a country in southern Europe with moderate-to-high endemicity for leishmaniosis.

Methods: *L. infantum* infection was investigated in 706 cats using IFAT (n=687) and real-time PCR (qPCR) on blood (n=673) and/or on lymph node aspirates (n=277). Cats with IFAT titer ³1:80 and/or positive qPCR were considered infected. In the same feline population, the blood phenotypes A, B and AB were determined using agglutination on tube method, with type B and AB samples confirmed by back typing and immunochromatographic techniques.

Results: *L. infantum* infection was found in 67/706 cats (9.5%), while A, B and AB blood phenotypes prevalence was 83.1%, 10.1% and 6.8%, respectively. *L. infantum* infection was demonstrated in cats of all three phenotypes. There was no significant association between general infection and the blood phenotype (P=0.7294), neither for *L. infantum* IFAT seropositivity (P=0.7740) or only qPCR positivity (P=0.4584).

Conclusions: AB feline blood system phenotype antigens and correlated natural alloantibodies do not appear to play a role in feline leishmaniosis infection.

39: MULTISYSTEMIC EFFECTS OF CANINE DISTEMPER VIRUS IN FERRETS

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Canine distemper virus (CDV) is an established cause of interstitial pneumonia in ferrets; however, the extent of lesions has not been well described. Over the course of 7 months, twenty-eight 1.5- to 8-month-old ferrets with a varied vaccination history for CDV presented to the Michigan State University Veterinary Diagnostic Laboratory for field (19) or in house (9) autopsy. Ferrets had clinical signs including ocular and nasal discharge, lethargy, diarrhea, and signs attributed to neurologic, and/or respiratory disease. Gross examination revealed bilateral nasal discharge, mottled red to purple, rubbery, non-collapsing to firm lungs, and lymphadenomegaly. Histologic examination demonstrated a variety of lesions including interstitial pneumonia with intracytoplasmic inclusion bodies in bronchial epithelium and alveolar macrophages, occasionally concurrent bronchopneumonia, lymphadenitis, lymphoid depletion, and colonic crypt necrosis. Syncytial cells were identified in multiple organs including lymph nodes, lungs, and kidneys. Although gastrointestinal signs are associated with distemper, this is the first report of CDV-induced colonic crypt necrosis in this species. Diagnostic testing included PCR for CDV on lungs (25/28 positive), spleen (8/8 positive), thymus (5/5 positive), trachea (5/5 positive) and/or urinary bladder (5/5 positive). Immunohistochemical labeling for CDV antigen was demonstrated in the lungs (21/28), small/large intestine (8/14), kidney (6/13), and lymph node (8/12). Crypt epithelial cells in regions of crypt necrosis in the colon labeled strongly for CDV. This case series demonstrates the breadth of lesions observed with canine distemper virus in ferrets, including previously undescribed gastrointestinal lesions in this species.