Purpose: To review clinical and morphological characteristics of 18 cases of feline ocular histoplasmosis and 6 suspected cases of histoplasmosis where no organisms were found.

Methods: All cases were retrieved from the archive of the Comparative Ocular Pathology Laboratory of Wisconsin (COPLOW). Cases were stained by H&E and Gomori silver stain and histological features were recorded. Epidemiologic and clinical data were obtained from the submission forms and the subsequent survey that was sent to the referring veterinary ophthalmologist and additional telephone contacts when required.

Results: Of the 24 cases, 18 were diagnosed as ocular histoplasmosis. 6 cases had no organisms but histological characteristics resembling POHS such as focally extensive areas of choroidal neovascularization and varying degrees of fibrosis accompanied with mild to moderate lymphoplasmacytic chorioiditis. Ages of affected cats ranged from 1.5 to 16 years (average 7.2). No sex or breed predilection was noted in any of the groups. Four of the Histoplasma positive cases presented bilateral ocular involvement, 12 only OD, 1 only OS and 1 case only conjunctival involvement. All of the 6 cases with no detectable organisms affected OS. The most common ophthalmic findings on the positive animals were glaucoma, panuveitis, retinal detachment and retinitis and in the negative group were glaucoma, uveitis, chorioretinitis and retinal detachment. 83% (10/12) of the positive animals and 50% (3/6) of the negative animals presented unspecific clinical signs including anorexia, lethargy and weight loss. Of those, 9 animals of the positive group and 2 of the negative group presented signs that could be associated with feline systemic histoplasmosis including generalized lymphadenopathy, splenomegaly, tachypnea and a broncho-interstitial pattern in thoracic radiographs. Ancillary exams to diagnose systemic histoplasmosis were conducted in 12 of 18 animals in the positive group and 3 of 6 in the negative group. Positivity was found in 50% (6/12) of the animals in the ocular histoplasmosis group where 4 animals were diagnosed by fine needle aspirate of lymph nodes and/or lung masses, 1 by serological test and 1 by PCR of lymph node aspirate. All 3 animals from the ocular histoplasmosis negative group tested negative for Histoplasma by fine needle aspirate of lymph nodes, serology and bronchoalveolar lavage. A lymphoplasmacytic and granulomatous pan-uveitis that was more prominent in the choroid with proliferation of RPE cells (arrow) often associated with the choroidal lesions.

Conclusions: Feline ocular Histoplasmosis is characterized by lymphoplasmacytic and granulomatous panuveitis and pyogranulomatous endophthalmitis with intra-histiocytic retina and choroidal yeasts affecting mid-age animals in endemic areas. Suspected histoplasmosis cases present no organisms and histological lesions that are similar to cats with organisms and human POHS (choroidal neovascularization and moderate lymphoplasmacytic infiltrate). We speculate that the cat is a useful model to study the mechanisms involved in the development of POHS.