FELINE CONJUNCTIVAL SURFACE ADENOCARCINOMA: TEN CASES

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PURPOSE
To describe a novel tumor, conjunctival surface adenocarcinoma, in 10 cats.

METHODS
The Comparative Ocular Pathology Laboratory of Wisconsin (COPLOW) database was searched for cases diagnosed with feline conjunctival surface adenocarcinoma. Information regarding the breed, age, gender, affected eye and location of the tumor within the conjunctiva was recorded. The referring ophthalmologist was contacted for follow up information. Histopathology was reviewed and Periodic Acid Schiff (PAS) stain to detect mucopolysaccharides was performed on at least one sample from each animal.

RESULTS
Ten cats were diagnosed with conjunctival surface adenocarcinoma, including 5 Domestic Long Haired, 2 Persian, 2 Siamese or Siamese cross and one Domestic Short Haired. Mean age was 10.7 years (range 3 to 18 years). Gender distribution was as follows: 5 spayed females, 2 intact females and 3 castrated males.

In 4 cases only the conjunctiva other than the third eyelid (TEL) was affected, in 2 cases only the TEL was affected and in the remaining 4 cases a combination of TEL and conjunctiva elsewhere was involved. Within the conjunctiva, the dorsal aspect was involved in 3 cases, the medial aspect in 2 cases (without third eyelid involvement), in 1 case there was multifocal involvement (dorsal-medial and ventro-lateral) and in 2 cases specific location was not specified. In the 2 cases with exclusive TEL involvement the tumor recurred within the medial canthus after surgical extraction of the TEL (Fig. 2).

Histopathologically, the tumor was frequently contiguous with the surface epithelium of the conjunctiva, forming slender papilliferous projections. Tumor cells frequently infiltrated adjacent structures, including the lamina propria of the conjunctiva, cornea at the limbus, and the gland of the third eyelid. Neoplastic cells were organized in solid packets, with occasional acini noted. PAS-positive material was found within the cytoplasm of neoplastic cells in 6 of 10 cases. PAS-positive extracellular material within the lumen of acinar structures was found in 4 of 10 cases.

Enucleation was performed in 6 of 9 cats in which information was available, another one was euthanized with histopathological evidence of recurrence at the site and distant metastasis and no enucleation was required in the remaining 2. Time from first biopsy to enucleation in the 6 cases ranged from 15 days to 7 months, with a mean of 2.75 months. Eight cats were euthanized, 3 of them with radiographically or histopathologically confirmed metastatic disease to the lungs, and 1 with clinical evidence of local recurrence in the orbit.

DISCUSSION
Feline conjunctival surface adenocarcinoma must be considered as a differential diagnosis for masses involving the conjunctiva and third eyelid of the cat or any multifocal nodular proliferations in the conjunctiva. Radical surgery may be required as this tumor has potential for recurrence if incompletely excised. Metastasis to the lungs has been documented.