



Signalment:

A 9 year old, male neutered, 6.5 kg domestic short hair feline.

History:

The patient had nasal discharge with congestion intermittently his entire life, which would temporarily respond to antibiotic therapy. Over the past six weeks the patient had been anorexic and had lost 1.1 kg. During the same period of time the congestion had been much worse despite being treated with oral, topical, and injectable antibiotics and diphenhydramine. A complete blood cell count, biochemical profile, and an upper respiratory PCR panel performed by the referring veterinarian had been unremarkable (Table 1). Several other cats in the household were normal and had never had upper respiratory clinical signs. The patient had received regular vaccinations and upon referral was off all medications.

Table 1

Biochemistry Profile: 12/19/2014		
Test	Results	Range
Total Protein	7.6 g/dL	5.2-8.8 g/dL
Albumin	3.1 g/dL	2.5-3.9 g/dL
Globulin	4.5 g/dL	2.3-5.3 g/dL
A/G Ratio	0.7	0.35-1.5
AST (SGOT)	31 IU/L	10-100 IU/L
ALT (SGPT)	27 IU/L	10-100 IU/L
Alk Phosphatase	26 IU/L	6-102 IU/L
GGT	4 IU/L	1-10 IU/L
Total Bilirubin	0.1 mg/dL	0.1-0.4 mg/dL
BUN	19 mg/dL	14-36 mg/dL
Creatinine	2.0 mg/dL	0.6-2.4 mg/dL
BUN/Creatinine Ratio	10	4-33
Phosphorus	6.0 mg/dL	2.4-8.2 mg/dL
Glucose	246 mg/dL↑	64-170 mg/dL
Calcium	10.3 mg/dL	8.2-10.8 mg/dL
Magnesium	2.1 mEq/L	1.5-2.5 mEq/L
Sodium	151 mEq/L	145-158 mEq/L
Potassium	4.3 mEq/L	3.4-5.6 mEq/L
Na/K Ratio	35	32-41
Chloride	114 mEq/L	104-128 mEq/L
Cholesterol	188 mg/dL	75-220 mg/dL
Triglyceride	59 mg/dL	25-160 mg/dL
Amylase	929 IU/L	100-1200 IU/L
Lipase	69 IU/L	0-205 IU/L
CPK	145 IU/L	56-529 IU/L
CBC		
WBC	15.1 (103/μL)	3.5-16.0 (103/μL)
RBC	8.6 (106/μL)	5.92-9.93 (106/μL)
HGB	14.4 g/dL	9.3-15.9 g/dL
HCT	44 %	29.48 %
MCV	51 fL	37-61 fL
MCH	16.8 pg	11-21 pg
Platelet Count	362 (103/μL)	200-500 (103/μL)
Neutrophils	9815 /μL ↑	65% 2500-8500 /μL
Lymphocytes	4228 /μL	28% 1200-8000 /μL
Monocytes	302 /μL	2% 0-600 /μL
Eosinophils	755 /μL	5% 0-1000 /μL
Basophils	0	0% 0-150 /μL

Table 1 Continued

PCR Feline Upper Respiratory Panel: 12/01/2014	
Bordetella Bronchiseptica	Negative
Feline Calicivirus (FCV)	Negative
Feline Herpesvirus 1 (FHV-1)	Negative
H1N1 (swine Flu) Virus	Negative
Chlamydomphila	Negative
Mycoplasma Felis	Negative

Physical Examination:

Physical examination showed a bright, alert, and responsive patient with a normal temperature of 100.3° F. The patient was excited with a heart rate of 240 with strong pulses and no auscultable murmur or arrhythmia. The respiratory rate was 24 with referred nasal sounds ausculted except when the patient would mouth breathe whereupon the chest would auscult normally. The patient exhibited a bilateral mucopurulent nasal discharge with decreased air flow bilaterally. Examination of the oral cavity showed moderate dental calculus and a possible mass effect to the caudal nasopharynx suggested by mild ventral displacement of the soft palate. The abdomen was soft and non-painful. The genitourinary, musculoskeletal, and neurologic systems were normal, and all lymph nodes were of normal size. The patient was admitted for a nasal CT and a rhinoscopic examination.

CT:

CT revealed a lobulated mass filling the caudal nasopharynx. The mass measured 3.5 cm from rostral to caudal by 2.1 cm from right to left by 1.8 cm dorsal to ventral. Fluid or mucus was present bilaterally in the ventral portions of the nasal cavity and nasal choanae. The right eustachian tube was air filled but the medial compartment of the right tympanic bulla contained a soft tissue attenuating mass. The lateral margin of the mass in the tympanic bulla was smoothly irregular and not gravity dependent and enhanced with contrast suggesting the structure was a soft tissue mass rather than fluid. The wall of the right tympanic bulla was moderately thickened compared to the left tympanic bulla which was considered normal in appearance (Figure 1).



Figure 1

Conclusion:

Ovoid to lobulated mass of the nasopharyngeal region with secondary obstruction of the nasal choanae, and an additional mass component to the medial aspect of the right tympanic bulla.

Rhinoscopy:

Posterior rhinoscopic examination with a 5.0mm flexible bronchoscope revealed a large nasal-pharyngeal polyp. The soft palate was retracted with a spay hook and the polyp was grasped with a right angle forceps. Traction of the mass allowed its removal along with a narrow stalk (Figure 2). Following removal of the mass no additional tissue could be visualized rhinoscopically. The nasal cavity was copiously flushed with saline and the patient recovered from anesthesia uneventfully except for the presence of Horner syndrome to the right eye (Figure3). The tissue was submitted for histopathology.



Figure 2



Figure 3

Histopathology:

The mass was composed of an edematous fibrovascular stroma (Figure 4) lined with pseudostratified, ciliated, columnar epithelium. A moderate number of mixed inflammatory cells including plasma cells, neutrophils, and lymphocytes were present to the superficial layers of the mass. Some areas of the mass showed partial ulceration with the adjacent stroma being replaced with regions of granulation tissue that contained more abundant neutrophilic inflammation.

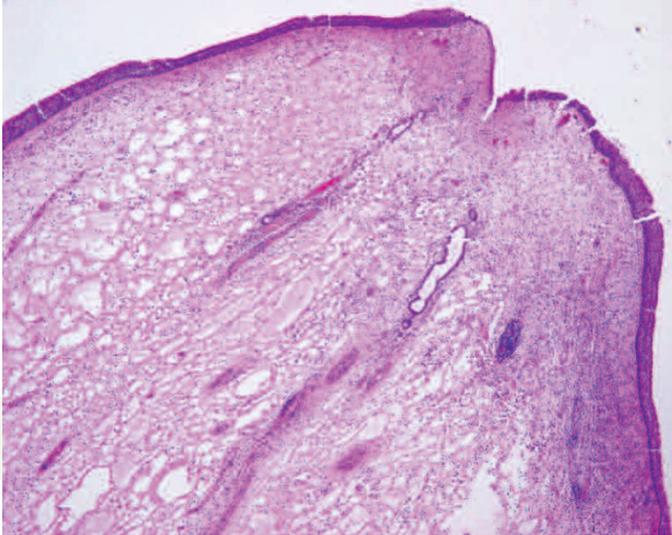


Figure 4

Conclusion: Nasopharyngeal polyp.

Discussion:

Inflammatory nasopharyngeal polyps are a common cause of chronic upper respiratory disease in cats characterized by nasal discharge, dyspnea, and sonorous breathing. Symptoms that are seen less frequently include sneezing, Horner syndrome, vestibular disease, dysphagia, ocular discharge and otitis externa. Cases have been reported from 3 months to 10 years of age, although the majority of cases will develop symptoms before 1 year of age.

The origin of nasopharyngeal polyps can be from the mucous membrane of the pharynx, Eustachian tube, or middle ear. The simultaneous presence of a polyp in the nasopharynx and the middle ear connected with a stalk through the Eustachian tube has been reported, and polyps can extend from the middle ear into the external ear

canal. Diagnosis of nasopharyngeal polyps is based on radiographic findings, direct visualization, and histopathology.

Nasopharyngeal polyps are treated with surgical removal. Most polyps can be visualized and removed by retracting the soft palate and grasping the polyp by its stalk and gently retracting it, or excising it at its base. Most polyps do not have a large blood supply, but occasionally cats can bleed profusely after polyp removal particularly when excised. It is important to have patients intubated with a cuffed endotracheal tube when removing polyps. The risk for polyp recurrence exists following removal. Recurrence is most frequent in cats with radiographic evidence of bulla involvement that are not treated with bulla osteotomy. Osteotomy of a diseased bulla appears to decrease risk of recurrence in this subset of patients, although recurrence rates are suggested to be <10%-50% depending on the study. Polyp removal is usually associated with immediate relief of clinical signs, and long term prognosis is excellent.

In the case described, disease was present in the right bulla and the nasopharynx. Bulla osteotomy was not performed in this patient due to middle ear disease symptoms not being present, the exam of the right external ear canal being normal, the low incidence of recurrence, and the patient's age. The case described further elucidates the fact that nasopharyngeal polyps can be the source of chronic upper respiratory signs in older cats that have lived with symptoms since they were very young, and demonstrates how symptoms can respond temporarily to antibiotic and anti-inflammatory medications making it appear to be infectious in origin.

Follow-up:

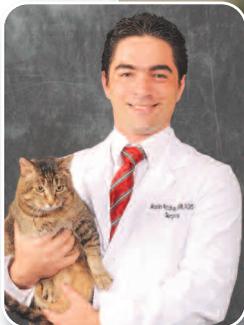
A two week follow-up found the patient to be free of nasal discharge, sleeping well, with the Horner syndrome resolved. At six weeks the patient had gained back all his previous weight, was free of all symptoms and was enjoying a new life. The owner replied "It's like he got a breath of fresh air". No pun intended.



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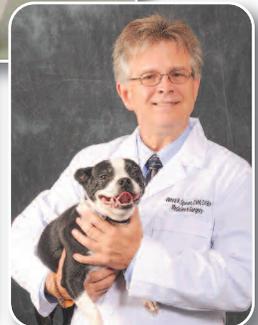
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