WHAT IS YOUR DIAGNOSIS?

An 8 month old, female neuter, domestic shorthair cat was presented to the R(D)SVS Internal Medicine Service for investigation of progressive increase in respiratory noise over the last four weeks. The cat had a mild decrease in appetite and, while still playing, did not exercise as vigorously as before. During marked exertion, open mouth breathing was noted. Intermittent sneezing was noted but no nasal discharge. There had been several bouts of reverse sneezing.

On clinical examination, the cat was bright and alert with a body condition score of 4/9. Mucous membranes were pink and moist and the heart rate was 160 bpm with no arrhythmia or pulse deficits. The respiratory rate was 32 breaths/minute, with no adventitious lung sounds but there was a mild increase in inspiratory effort. There was minimal airflow through both nares. The soft palate appeared to be deviated ventrally. Rectal temperature was 38.9°C.

1) What are your main differential diagnoses for upper respiratory tract clinical signs in a cat?

2) How would you investigate this cat?
1. Causes of feline nasopharyngeal disease include:
   a) Infectious causes e.g. viral (FHV, FCV), bacterial (*Bordetella*, *Mycobacteria*, many others but usually secondary), fungal (*Cryptococcus*, *Aspergillus*)
   b) Inflammatory e.g. chronic inflammatory rhinitis, allergic rhinitis, nasopharyngeal polyp
   c) Neoplastic e.g. lymphoma, adenocarcinoma, sarcoma
   d) Foreign body e.g. grass blade, seeds
   e) Vascular e.g. epistaxis due to coagulopathy or hypertension
   f) Trauma
   g) Congenital e.g. cleft palate, extreme brachycephalic conformation
   h) Anomalous e.g. nasopharyngeal stenosis

2. The lack of nasal or ocular discharge or oral ulceration means infection with cat ‘flu infectious agents less likely. The presence of stertor without nasal discharge and a ventrally deviated soft palate made a nasopharyngeal polyp, neoplasm or foreign body most likely. To investigate further, imaging was performed and was consistent with a nasopharyngeal polyp arising from the left tympanic bulla(Figure 1).

![Figure 1: CT scan of the head demonstrating fluid and soft tissue in the left tympanic bulla with bony proliferation and lysis of the bulla wall.](image-url)
Figure 2: Intra-oral photograph of the polyp. The soft palate has been retracted with a spay hook and the mass grasped with Allis tissue and haemostatic forceps.

Figure 3: The appearance of the polyp after removal. Note the thin stalk of tissue that would have attached to the middle ear via the Eustachian tube.
Management

The polyp was removed by steady traction using a combination of Allis tissue forceps and haemostatic forceps. There was some post-removal bleeding which responded to direct pressure with large cotton tipped swabs. The cat recovered well from general anaesthesia but had left sided Horner’s syndrome which resolved within 5 days. There was immediate relief of respiratory noise and return of good nasal airflow. The cat was treated with anti-inflammatory doses of prednisolone at 0.5mg/kg/day for four weeks.

Discussion

Nasopharyngeal polyps are benign growths of inflammatory tissue that arise from the middle ear or Eustachian tube and grow down into the nasopharynx causing airflow obstruction and mechanical irritation which typically manifests as stertor, reverse sneezing, sneezing, nasal discharge and dysphagia. The aetiology is incompletely understood but is thought to be due to chronic inflammatory change within the middle ear which may be due to infectious agents. CT scanning allows the extent of the bulla disease to be evaluated and is more reliable in detecting which side is affected; this is particularly important for those cats requiring surgical treatment. Treatment typically consists of either removal by steady traction or surgically by ventral bulla osteotomy. Traction removal is generally straightforward once the soft palate has been retracted. Complications include haemorrhage (normally minor and managed with the application of pressure), Horner’s syndrome and recurrence. Horner’s syndrome has been reported to occur in up to 43% of cases but is usually transient and resolves within one month. Recurrence rates of up to 41% are recorded but are thought to be reduced if anti-inflammatory doses of prednisolone are administered. Nasopharyngeal polyps are less likely to recur than aural polyps. Ventral bulla osteotomy has been associated with lower recurrence rates but there is a higher risk of Horner’s syndrome, vestibular disease or facial nerve paralysis.

References


