WHAT IS YOUR DIAGNOSIS?

A nine year old year, female neutered, Burmese cat was presented to the R(D)SVS Internal Medicine Service for investigation of upper respiratory tract noise of ten months duration. There had been transient improvements with administration of corticosteroid, cefovecin and bromhexine but it had not been sustained. Her owner described episodes when the cat made a ‘quack-like’ noise in paroxysms. Reduced exercise tolerance and appetite were noted over the same time period.

Physical examination revealed the cat to be quiet, alert and nervous with a body condition score of 3/9. She had normal facial symmetry and was not mouth breathing but an inspiratory squeak was present constantly with an intermittent louder noise. She had mild gingivitis and stomatitis. Lung auscultation, percussion and thoracic compression were unremarkable apart from referred upper airways noises. Her respiratory pattern demonstrated mild increased inspiratory effort but rate was normal at 20 breaths/min. She was tachycardic at 220-240bpm, with no pulse deficits.

Routine hematology, serum biochemistry and urine analysis were unremarkable. An ELISA snap test was negative for FeLV and FIV.

1) What are your differential diagnoses for the upper respiratory tract noise in this cat?

2) What other diagnostic evaluations would you perform?

3) How would you treat this cat?
1. Differential diagnosis for upper respiratory tract noise would include:

a) **Nasal disease**
   i) Infectious causes e.g. viral (FHV, FCV), bacterial (Bordetella, Mycobacteria), fungal (Cryptococcus, Aspergillus)
   ii) Inflammatory e.g. rhinitis
   iii) Neoplastic e.g. lymphoma, adenocarcinoma, sarcoma
   iv) Foreign body e.g. grass blade, seeds
   v) Vascular e.g. coagulopathy
   vi) Trauma
   vii) Congenital e.g. cleft palate
   viii) Anomalous e.g. nasopharyngeal stenosis

b) **Nasopharyngeal disease**
   i) Infectious causes e.g. viral (FHV, FCV), bacterial (Bordetella, Mycobacteria), fungal (Cryptococcus, Aspergillus)
   ii) Inflammatory e.g. nasopharyngeal polyp
   iii) Neoplastic e.g. lymphoma, adenocarcinoma, sarcoma
   iv) Foreign body e.g. grass blade, seeds
   v) Trauma
   vi) Congenital e.g. cleft palate
   vii) Anomalous e.g. nasopharyngeal stenosis

c) **Laryngeal disease**
   i) Laryngitis due to infectious disease
   ii) Inflammatory laryngitis e.g. allergic, idiopathic
   iii) Neoplastic e.g. lymphoma, adenocarcinoma
   iv) Foreign body
   v) Trauma
   vi) Congenital malformation
   vii) Laryngeal paralysis

d) **Tracheal disease**
   i) Foreign body
   ii) Neoplasia
   iii) Trauma
   iv) Congenital malformation
   v) Stenosis
   vi) Compression from extra-tracheal mass
2. Further testing principally would involve imaging of the upper respiratory system and could include radiography, CT, fluoroscopy and endoscopy. In this case a CT scan was performed.

![Lateral image of the head demonstrating a thin 2mm band of tissue connecting the soft palate and dorsal nasopharynx.](image)

Figure 1. Lateral image of the head demonstrating a thin 2mm band of tissue connecting the soft palate and dorsal nasopharynx.

The CT scan and endoscopy were consistent with a diagnosis of nasopharyngeal stenosis. A pharyngeal swab was taken for PCR testing for infectious disease (*Herpes, Calici, Chlamydophila, Mycoplasma felis* and *Bordetella*). The result was positive for calici virus and *Mycoplasma felis*.

3. Primary treatment is focused on relieving the nasopharyngeal obstruction. This was achieved by balloon dilation under general anaesthesia. Surgical removal, mucosal advancement flaps and manual dilation using Kelly forceps have also been described. On recovery from anaesthesia, no upper respiratory tract noise could be heard and the inspiratory effort had resolved. The cat was discharged on anti-inflammatory doses of corticosteroid for two weeks to reduce the risk of re-formation of the stenosis and minimize post-dilation discomfort and swelling.

On follow-up, there was no recurrence of clinical signs and the patient had improved demeanor and weight gain. Although not seen in this cat, recurrence of stenosis can be a significant problem and repeated procedures may be necessary. Placement of a temporary silicone stent has been described as a method of management of those cases where repeated stenosis occurs.
References

