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Nasopharyngeal Polyp in a Domestic Short Hair Cat

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Abstract : A 2-year-old, domestic short hair cat presented because of a 2-year history of chronic nasal discharge and chronic otitis. Examination of the oral cavity revealed a mass in the nasopharynx. For further examination, computed tomography (CT) was performed and large polyp was revealed on the nasopharyngeal area. Traction removal of the polyp was performed using a spay hook. After removal of the mass, Horner's syndrome was developed but resolved spontaneously within 14 days.

Key words **:** Cat, Horner's syndrome, Nasopharyngeal polyp.

Introduction

Nasopharyngeal polyps are non-neoplastic masses that originate from the mucosa of the auditory tube or the middle ear and stretch to the pharynx (5,9,15). When they occur, these polyps are usually found within the tympanic cavity or auditory tube. Although the reason for the development of nasopharygeal polyps is not clear, proposed etiologies include a response to chronic upper respiratory tract infection (13), chronic otitis media (9), ascending infection from the nasopharynx (9), or congenital origin (14). Unless drainage from the middle ear is blocked, cats may have no clinical signs indicating the presence of the polyp. When the polyps become large enough, clinical signs may include sneezing, nasal discharge, gagging, ocular discharge, change in voice (dysphonia), swallowing difficulties, head tilt, Horner's syndrome, nystagmus, ataxia, difficulty breathing, and a visible mass within the ear canal (10,12,14).

Currently there are three recommended treatment options for the removal of nasopharyngeal polyps including traction avulsion, lateral bulla osteotomy, or ventral bulla osteotomy (4,10,12). Treatment options may depend on the location of the polyps, clinical signs, and associated radiographic or computed tomographic changes.

This case report describes the clinical signs, diagnostic findings, and therapeutic procedure of a cat that presented with two years of chronic nasal discharge and was diagnosed with a nasopharyngeal polyp.

Case Report

A 2-year-old, spayed female, domestic short hair cat was presented because of a 2-year history of chronic nasal discharge and chronic otitis externa/media. The owners reported that they rescued the cat when she was a few days old. The cat had started having sneezing and multiple ear infections since rescued. The cat had an unknown medical record for FIV and FeLV vaccination. On physical examination, unkempt hair coat, brown debris in the left ear, mucopurulent discharge from both nostrils, and bilaterally absent nasal airflow were observed. Severe stertor was evident on inspiration and lung sounds were not auscultated due to the referred upper airway noise. No murmurs or arrhythmias were detected. Mandibular lymph nodes were enlarged. Routine blood tests were normal. The cat was anesthetized for the examination of the nasal cavity and oral cavity and palpation of the soft palate revealed a mass in the nasopharynx. Computed tomography (CT) was performed to confirm the accurate location and size of the mass. On CT imaging with contrast, the polyp outlined in the nasal cavity with involvement of the left middle ear showing bulla thickness (Figs 1A and B). The left tympanic bulla was moderately and diffusely thickened and irregular. The middle ear and horizontal external ear canal were diffusely filled with soft tissue material. A large poorly defined hypoattenuating mass ($1.5 \times 1.6 \times 2.5$ cm) with a strongly contrast enhancing rim was present extending from the left tympanic bulla rostrally into the caudal nasopharynx. We performed gentle traction of the nasopharyngeal mass in the cat. The base of the large polyp that occluded the left tympanic bulla was identified and pulled with a spay hook(Figs 1C and D). Several smaller polyps that appeared to originate on the auditory tube and nasopharynx were removed. After traction of the mass, the cat was treated with ampicillin (IV, TID, for 2 days). After 2 days of gentle traction, Horner's syndrome including miosis, ptosis of the upper eyelid, enophthalmos of the third eyelid on the left eye was developed. However, the Horner's syndrome resolved spontaneously

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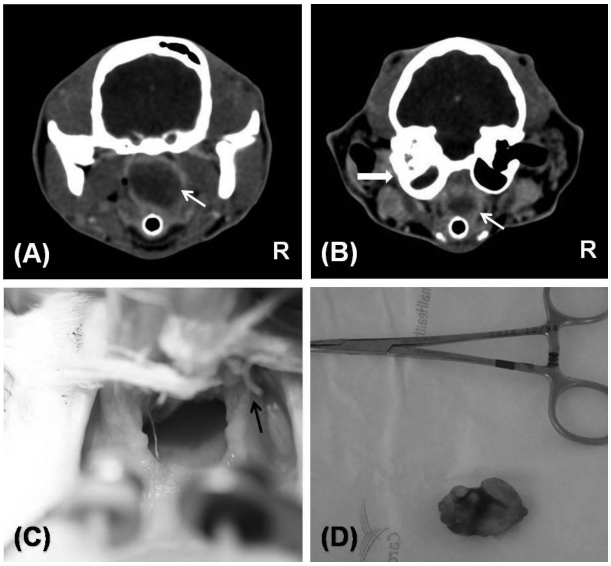

Fig 1. (A,B) Contrast-enhanced transverse computed tomography (CT) scan. There was a soft tissue density is observed in the ventral aspect of the nasal cavity and rostral nasopharynx. The left tympanic bulla was diffusely, moderately thickened and irregular. (C) Repeat soft palate examination with a spay hook performed, revealed a large mass suggestive of a polyp. (D) The large polyp was removed through gentle traction by a spay hook.

within 14 days.

Discussion

Nasopharyngeal polyps in cats are uncommonly reported in veterinary medicine (11). The cause of nasopharyngeal polyps is unknown, but ascending infection and congenital causes have been suggested.

Considering the possibility of surgical morbidity, the desire for a less-invasive approach, and the owner's concerns, the polyps were removed using traction of the treatment options for removal of inflammatory nasopharyngeal polyps. However, the traction method has limitations. Despite excellent surgical exposure, it is difficult to completely remove all abnormal tissue using forceps. Cats with nasopharyngeal polyps that are treated with traction are more likely to be recurrent than cats with nasophayngeal polyps that are treated with ventral bulla osteotomy (7,12). It was reported that the range of recurrence rates with traction is 63% to 41%, however the range of recurrence rates with ventral bulla osteotomy is 0% to 8% (7).

After treatment of nasopharyngeal polyps, few cases have had long-term follow-up. In this case, the patient did not have recurrence of the nasopharyngeal polyps after traction. However, Horner's syndrome was developed after traction. Horner's syndrome is a commonly reported complication regardless of treatment options due to damage of the sympathetic nerve passing through the middle ear (2,7). Studies have reported frequencies 43% after traction versus frequencies from 57% to 96% after ventral bulla osteotomy (2,7,8). Horner's syndrome, however, resolves within 2 to 4 weeks in most cases (2,7). Other reported complications include recurrence, wound drainage, otitis media that is possibly related to rupture of the tympanic membrane, hypoglossal nerve damage, facial nerve paralysis, vestibular disturbances, intraoperative hemorrhage, head tilt, and damage to the auditory ossicles (2).

This case study confirmed that traction is a safe and effective treatment for inflammatory nasopharyngeal polyps in cats.

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단모종 집고양이의 코인두 폴립 증례

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요 약 : 2살령, 단모종의 집고양이가 2년 동안 만성 중이염과 콧물증상을 보였다. 구강 검사시 코인두에 종괴가 발견되었다. 추가적인 검사를 위해, 컴퓨터 단층촬영술을 시행하였고 코인두 부분에서 큰 폴립이 발견되었다. Spay hook을 이용하여 폴립의 당김제거술을 수행하였다. 종괴를 제거한 후, 호르너증후군이 나타났으나 14일 이내에 자발적으로 해소되었다.

주요어 : 고양이, 호르너증후군, 코인두 폴립