ACQUIRED NASOPHARYNGEAL STENOSIS IN A CAT: USE OF ADVANCED IMAGING TECHNIQUES TO DIAGNOSE AND SURGICAL TREATMENT

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Introduction

Nasopharyngeal stenosis is a rare condition in cats, which can be congenital or acquired (ANS) after processes that trigger scar formation. In this pathology, a web-like scar tissue formation across the nasopharynx causes an obstruction leading to stertorous breathing, gagging, dyspnoea and even open-mouth breathing, vomiting, dysphagia and weight loss. Various methods to diagnose and to resolve this condition have been tried in the past. The diagnosis has been traditionally reached through lateral radiographs of the head, with retroflex rhinoscopy of the nares and cannulation of both nasal passages.

Objectives

The aim of this study was to try other diagnostic imaging methods such as Computed Tomography scan (CT) and Magnetic Resonance Imaging (MRI) as well as to treat the condition and evaluate the outcome of the patient.

Methods

The patient, a one and a half year old female Common European feral cat with a six months history of rhinotracheitis, cough and nasal secretion was presented to the hospital for evaluation of a chronic upper respiratory problem. At the moment of evaluation, a respiratory difficulty (most marked during the inspiratory phase) was noticed, as well as dilated nares and open-mouth breathing. In the CT scan, a soft tissue opacity structure within the nasopharynx can be seen. The same image seen with the MRI demonstrates the narrowing resulting from the existence of the structure mentioned before. In addition, the given functions of OsiriX MD® facilitates the visualization of the stenosis as a 3D image video. These images both together and separately would confirm the diagnosis of nasopharyngeal stenosis.

The Kelly forceps technique was chosen as the most rapid, safe and economic way to resolve the stenosis in this case. Endoscopy, which is very useful for diagnosis and treatment of this condition was performed in dorsal recumbency and a curved Kelly forceps was inserted through the orifice of the nasopharynx and then carefully opened to dilate the stenosis.

Four months after the intervention, the cat remains healthy, with no nasal secretions, inspiratory difficulty, dilated nares and open-mouth breathing, showing no signs of upper respiratory tract disease (URTD).

Results

Conclusion

ANS appears to be rare in this species. This condition is caused by a web-like scar tissue formation causing the narrowing of the nasopharyngeal passage leading to upper respiratory tract signs. Different techniques have been used to treat this condition, although only a few have resulted to solve the problem in a long-term basis. After four months, the patient remains stable with no signs of URTD, and an improved quality of life has been reported by the cat colony carer.

In this case, CT scan, MRI and endoscopy proved to be useful techniques to reach the diagnosis and the Kelly forceps technique turned out to be a rapid, safe and economic way to resolve the stenosis. Although the chosen treatment happened to be successful in a short-term basis, further physical exams of the patient must be made in the future in order to evaluate its efficacy on a long-term basis.

References


Fig. 1. MRI image. On the lateral view, narrowing of the nasopharynx can be seen (green arrow).

Fig. 2. CT scan image. Three orthogonal views of the stenosis.

Fig. 3. QR code for a 3D MPR CT scan video, showing the passage from the cranial nasopharynx to its caudal part trough the scar web.