Clinical and histopathological findings related to laryngeal neoplasia in a feline geriatric patient

Nowadays, there is an increase in patients’ longevity in clinical medicine of feline that can be explained by improvements in cats’ quality of life. In this way, the follow up of feline geriatric patient (up to fifteen years old) should be a preventive medicine act in order to maintain a correct state of health, with preventive treatment of diseases or to obtain early diagnosis. Inevitably, the increase of life-expectancy is associated with onset of chronic diseases, as neoplastic processes. Among these conditions, the most common in felines are those with skin, hematopoietic, gastrointestinal and mammary origins. In others areas, as larynx, evidence of neoplasia is rare. However when it occurs, they are usually malignant tumor, which the most usual types are lymphoma, adenocarcinoma and squamous cell carcinoma. Clinical signs are insidious and sometimes they are similar to other illnesses which also affect the upper respiratory tract of cats. Overall, when cat patients with larynx neoplasia arrive in clinical care or are diagnosed, the neoplasia is on advanced stage and has an unfavorable prognosis.

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Objective

Because it corresponds to a relatively unusual pathology in the feline species, which leads to clinical signs that hinder an accurate and premature detection, the objective of this paper was to report a case of larynx neoplasia, with an emphasis on symptomatology and histopathological aspects, to alert professionals that work with feline internal medicine for the possibility of such neoplastic formation occurrence.

Method

A 17-year-old neutered domestic female cat was referred to a veterinary evaluation due to respiratory symptoms which progressed over a week. Previous treatment consisted of corticoid, but without satisfactory results. Patient underwent clinical examination. Subsequently, complete blood count (CBC), a biochemical blood test (renal and hepatic), Immunoenzymatic test for retroviruses were requested, as well as cranial, cervical and thoracic radiographs. A thorough examination of the larynx was necessary with adequate chemical containment, adopting laryngoscopy technique. After this procedure, euthanasia was performed on the patient. Then, samples of larynx were collected, fixed in 10% formalin solution and sent for histopathological analysis.

Results

Clinically, vital parameters were normal. However, cough, dysphonia, dysphagia, inspiratory dyspnea and stridor were notorious. The inspection of nostrils and oral cavity detected no change, as well as the auscultation of respiratory system, which revealed no pathological respiratory sounds. CBC, biochemical blood test, immunoenzymatic test and imaging examination had no abnormalities. In larynx examination, a nodule could be viewed causing almost complete obliteration of lumen (Figure 1). Its texture was soft, with irregular form and intact surface. The nodule was attached to adjacent structures. In view of that, euthanasia was justified, upon information of the situation to the tutor and with proper authorization. Also, it is important to point out that no apparent proliferations were found in other anatomical areas examined in physical evaluation. In histopathology of the laryngeal tissue, it was observed neoplastic proliferation, whose cells were polyhedral and morphologically similar to those of the spinous layer of the epidermis. The spread were irregular and disorganized, forming trabeculae and compact cell blocks that were interconnected between collagen fibers. Furthermore, those have anisocarasia, anisocytosis, intense nuclear atypia and evident nucleoli. The morphological picture was compatible with moderately differentiated squamous cell carcinoma.
Figure 1 Neoformation almost completely obliterating the laryngeal lumen (arrow), in domestic cat.

Discussion

Primary laryngeal neoplasms in cats are uncommon and seems to have a greater tendency for presentation in males aged 12 to 14 years\(^5\). The epidemiological data related to the gender and age of the animal diverged from the literature consulted. Clinical signs generally correspond to severe and persistent (but sometimes acute) dyspnea, progressive intolerance to exercise, dysphonia, respiratory stridor, dysphagia, cough, halitosis, hemoptysis, oral bleeding and/or ptyalism\(^4\). The clinical manifestation exhibited by the cat revealed partial similarity with the report of other authors. Perhaps the failure to detect all the symptoms that are usually involved with laryngeal neoplasia in the individual described in this paper could be related to a probable acute evolution of lesion. In cat’s larynx tissue, neoplastic masses are uncommon, but when they appears the lymphoma is the most verified microscopic pattern (33.3\(\%\)), followed by squamous cell carcinoma (29.6\(\%\)) and other histological forms\(^6\). Such citation conferred an unusual character for laryngeal neoplasia, and respective histopathological type, for the patient in evidence. Squamous cell carcinoma in the larynx of cats is characterized by an annular constriction of the lumen, ranging in size from 2 mm to 1 cm and rapid invasion into deep tissues\(^5\).
In general they are inoperable⁷. Such presentation was compatible with the reported case, as in relation to the macroscopic aspects as the impossibility of conventional therapy. Laryngoscopy is a viable procedure for the diagnosis of affections of the anterior respiratory tract, allowing a minimally invasive visualization of proliferations in the region of the larynx and adjacencies⁷. Nonetheless, the definitive diagnosis must be made by the histopathology and not only by the macroscopic appearance of the lesion⁷. Differential diagnosis with traumatic, inflammatory (asthma) or infectious diseases (herpervirus type 1 or bacteria), abscesses, lymphoid hyperplasia, laryngeal paralysis, cysts, polyps and benign neoplasms (adenoma) is necessary, since such processes have similar clinical signs with malignant neoplastic diseases of the larynx ³,⁴,⁵,⁶. In female cat reported in this paper, laryngoscopy allowed a diagnostic screening, but histopathology was essential for the definitive diagnosis of squamous cell carcinoma of the larynx and for the exclusion of other diagnostic possibilities. The prognosis of cats with laryngeal neoplasm is poor, with a life span of only five days after detection⁶. Although some individuals may present a longer survival interval, they are referred for euthanasia due to complications of oncopathy⁶. This information corroborated with the cat analyzed. In humans, the origin of laryngeal squamous cell carcinoma is related to smoking and consumption of alcoholic beverages⁸. However, additional research is needed in cats to demonstrate the risk factors associated with laryngeal carcinogenesis⁶. For the explicit animal, it was not possible to determine the cause that led to the primary laryngeal neoplasm.

**Conclusion**

In geriatric cats with varied symptomatology and related to the upper respiratory tract, the presence of neoplasias in the larynx should be considered, and histopathological examination is fundamental to obtain the definitive diagnosis.

**References**


