

# SUCCESSFUL MANAGEMENT OF SINO-NASAL ASPERGILLOSIS AND CANDIDIASIS IN LABRADOR RETRIEVER DOG

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DOI 10.29005/IJCP.2024.16.1.33-35}

[Received: 16.04.2023; Accepted: 11.06.2024]

**How to cite this article:** Bhand, A., Tanwar, C., Raghuvaran, R. and Mahendran, K. (2024). Successful Management of Sino-nasal Aspergillosis and Candidiasis in Labrador retriever Dog, *Ind. J. Canine Pract.*, 16(1): 33-35.

A nine-year-old Labrador retriever intact male dog was presented to the RVP-IVRI with an anamnesis of chronic, intermittent unilateral muco-haemorrhagic nasal discharge, swelling on the nasal region since three months. During this period, the dog was treated with various antibiotics with no success and lost 6 kg of corporal mass. Clinically, intermittent sneezing and snoring were observed. Routine hematological and biochemistry panels were within reference ranges. Radiographic findings showed space occupying mass in the nasal cavity at the level of ethmoid bone. Rhinoscopic examination was done to evaluate the nasal cavity and to help the exact diagnosis. Cytological examination revealed suppurative inflammation with secondary hemorrhages. Fungal culture from nasal swab revealed moderate growth of *Aspergillusandcandidasp* after 7 days of culture. Computed tomography examination revealed polypoidal soft tissue area filling bilateral maxillary, ethmoid and frontal sinuses, partial destruction of right ethmoid bony septae and nasal septum, destruction of half of the hard palate involving alveolar process along with soft tissue density area of 44\*43mm in the right cheek was also noticed which is suggestive of fungal sinusitis. Based on history, clinical examinations, diagnostic imaging and culture examinations the case was tentatively diagnosed as sino-nasal aspergillosis and candidiasis. Treatment was initiated with itraconazole at the dose rate of 5 mg/kg of body weight, orally, twice a day for 21 days, enrofloxacin at 5-10 mg/kg of body weight, orally, once in a day for 7days. Significant improvement in the condition of dog was noticed after initiation of the therapy.

**Keywords:** Aspergillosis, Candidiasis, Dog, Sinusitis.

Chronic nasal discharge is a common clinical sign of respiratory tract diseases resulting from fungal infection, neoplasia, foreign body or some oral disease. Fungal infections of the nasal cavity are relatively uncommon in dogs. Sino-nasal aspergillosis accounts for 12%-34% of nasal disease in dogs (Ballber *et al.*, 2018). Canine rhinosinusitis is a mycotic disease with worldwide distribution and *Aspergillusfumigatus* is most commonly reported cause (Talbot *et al.*, 2014) and it is characterized by the formation of lesions within the nasal cavity and frontal sinus. Candida species are the saprophytic yeast and are commensal of upper respiratory and genital tract mucosa, under certain conditions like skin injuries they may change into microorganism and cause skin infection. The fungus may dwell within the host for a

prolonged duration (such as months) before showing clinical symptoms, which includes sneezing, nasal discharge, nasal discoloration, bleeding, and damage to the turbinates (Valdes *et al.*, 2020).

## Case History and Observations

A nine-year-old Labrador retriever intact male dog weighing 29 kg was presented to the Referral Veterinary Polyclinic, Indian Veterinary Research Institute, Izatanagar, Bareilly, with the history of chronic, intermittent unilateral muco-haemorrhagic nasal discharge, swelling on the nasal region since three months (Fig.1). During this time, the dog received a range of antibiotics without any improvement, and resulted in a loss of 6 kg of body weight. Clinical examination revealed intermittent sneezing and snoring.



**Fig.1 SWELLING ON THE NASAL REGION ALONG WITH MUCO-HAEMORRHAGIC NASAL DISCHARGE**

### ***Diagnostic Investigations***

Complete blood count and serum biochemistry values were within normal range. Lateral and dorsoventral radiograph of skull revealed space occupying lesions in the nasal cavity at the level of ethmoid bone. Rhinoscopic examination was carried out to evaluate the nasal cavity and to help the exact diagnosis. The cytological analysis indicated the presence of supportive inflammation accompanied by secondary hemorrhages. Computed tomography examination revealed polypoidal soft tissue area filling bilateral maxillary, ethmoid and frontal sinuses, partial destruction of right ethmoid bony septae and nasal septum, destruction of half of the hard palate involving alveolar process along with soft tissue density area of 44\*43mm in the right cheek was also noticed which is suggestive of fungal sinusitis. After 7 days of culture, the fungal culture from the nasal swab showed moderate proliferation of *Aspergillus* and *Candida* species.

### **Treatment**

Considering the patient's history, clinical assessments, diagnostic imaging, and culture results, the case was tentatively diagnosed as sino-nasal aspergillosis and

*Indian Journal of Canine Practice* 34  
ISSN: 2277-6729 e-ISSN: 2349-4174

candidiasis. Treatment was initiated with itraconazole at the dose rate of 5 mg/kg of body weight, orally, twice a day for 21 days, enrofloxacin at 5-10 mg/kg of body weight, orally, once in a day for 7days. Noticeable improvement in the dog's condition was observed following the initiation of therapy.

### **Results and Discussion**

After 4 week of therapy and proper care, significant improvement in the dog condition was observed. In veterinary medicine, infection of the upper respiratory tract by *Aspergillus* spp. is of greatest clinical importance in the dog. A combination of diagnostic method is essential as *Aspergillus fumigatus* is a ubiquitous fungus present in the nasal cavity of many healthy animals as also reported by Kumar *et al.*, 2021. Therefore, it is necessary to perform various complementary exams, such as radiography, rhinoscopy, histopathology, fungal culture, and serology among others, in order to confirm the diagnosis of sino-nasal aspergillosis.

### **Conclusions**

Effective treatment of sino-nasal aspergillosis and candidiasis necessitated

*Volume 16 Issue 1, June, 2024*  
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appropriate therapy and attentive care. It's crucial to recognize that timely diagnosis and definitive treatment in dogs suffering from nasal conditions often result in positive outcomes and a high quality of life.

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